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EDUCATIONAL NEWS AND EDITORIAL COMMENT

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SOME COMMENTS ON EDITORIAL POLICIES

Selected References to continue

In the September and October, 1952, issues of the *School Review*, we asked readers to write us whether they would like us to continue to publish the lists of "Selected References" that have been a regular feature of the journal. We did not expect to be snowed under by replies, and we weren't; but letters were received from eighteen States and the District of Columbia. The replies came from persons representing fourteen types of positions of high responsibility in school and college work.

The replies were overwhelmingly in favor of continuing the "Selected References." Typical of the comments are the following.

I find the Selected References helpful in keeping abreast of the field of education and when preparing reading lists for students.

The Selected References are invaluable to me in our work with curriculum committees and classroom teachers. Particularly well covered in your lists, and not found elsewhere, are the references to curriculum bulletins and educational meetings over the country.

This is one of the finest features of your magazine.

We find the annotated references of great value. They furnish a quick index to back numbers of magazines which we have in our professional library, as well as a guide to publications which it would be helpful for us to secure in connection with problems on which we are working.

My hope is that this service can continue in both the *School Review* and the *Elementary School Journal* for the benefit of school workers, graduate students, and professors. In my judgment this monthly feature is more valuable than the typical magazine article that would occupy the same number of pages.

It seems to me that it is a very adequate way for a teacher to get acquainted with current publications in the field in the shortest possible time.

I find constant use for the section in our library. The film addendum is useful also.

Over the years I have found them interesting, newsy, and informative. Frequently

through them I have learned of ideas, movements, and accomplishments about which I had not known nor which subsequently I have seen as effectively presented.

It would be a great loss to secondary education if you were to discontinue this service to your readers.

In view of these results, we have decided that the Selected References should be continued. We take this opportunity to thank all those who went to the trouble of writing to us. Recently a well-known newspaper writer was asked in a public meeting whether the editors paid any attention to the letters that they receive. He replied that they certainly do and that such letters (except those obviously from crackpots) have an influence quite out of proportion to their number. He said that the editors believe that for every reader who will compose, sign, seal, stamp, and mail a letter, there are dozens of others who think the same but do not write. We hope that this is true in this instance.

While we are on this subject, we should like to express our deep appreciation of the work of the compilers of the references. The lists when published give little indication of the time and effort required to assemble them. The compiler not only must try to locate all significant references in a particular field but must also read them, evaluate them, and, what is perhaps most difficult of all, describe each reference in a very few words. On behalf of the Editorial Committee and, we feel sure, of many readers, we here publicly thank each compiler for this contribution to the field of education.

Reviews of books The book reviews make up another section of the journal which is sometimes not fully appreciated. The writing of a good scholarly review is a difficult assignment. In these days of high publication costs, a review which is no more than a description of a book's content is of questionable value. The reader wants an evaluation also. In many cases the best-qualified reviewers are often personal friends, or at least professional acquaintances, of the authors of the books, and this relationship makes the reviewers reluctant to criticize the works adversely. The *School Review* strives constantly to offer reviews which are prepared by competent persons and which are in themselves scholarly contributions. We are grateful to all those persons in the profession who have contributed reviews, and we are proud of the consistently high quality of this department.

Articles published Only rarely does the Editorial Committee of the *School Review* ask a writer to prepare an article on a particular subject. To be perfectly frank, we wish to avoid the difficult situation that arises if the article, when submitted, is not what we had hoped to get. On the other hand, we welcome unsolicited articles that deal with any phase of secondary education. We prefer those which range from about

2,000 to 4,500 words in length and which either report on a piece of research or present well-thought-out analyses of problems in the field. The Editorial Committee is well disposed toward discussions of controversial issues and would like to receive more good articles of this kind.

Educational monographs For many years the series known as Supplementary Educational Monographs has been published in conjunction with the *School Review* and the *Elementary School Journal*. The latest in this series are Number 76 (November, 1952), *Improving Reading in All Curriculum Areas*, compiled and edited by William S. Gray, and Number 77 (January, 1953), *Clinical Studies in Reading. II—With Emphasis on Vision Problems*, edited by Helen M. Robinson.

Improving Reading in All Curriculum Areas presents the proceedings of the 1952 annual conference on reading held at the University of Chicago. Papers by nationally known authorities consider the issues faced in improving reading in the content fields; steps involved in school-wide attacks on the problem; methods of promoting growth in and through reading in child-centered and in core curriculums; the attack on reading difficulties and the distinctive problems presented by poor readers; concrete procedures and techniques for increasing reading competence in science, arithmetic and mathematics, social studies, and literature; and administrative responsibilities for reading improvement. The papers deal with problems from the kindergarten level to and including the junior-college grades.

Each year hundreds of conventions and conferences are held, but the proceedings of only a few of these are published and become a substantial part of the literature of a field. The monographs that have come out of the conferences on reading organized by Professor Gray are noteworthy exceptions to this statement. This monograph may be purchased from the University of Chicago Press at $3.25.

Supplementary Educational Monograph 77, *Clinical Studies in Reading. II*, since it is based on experience in diagnosing the difficulties of poor readers and in providing remedial instruction for them, provides keen insights and helpful information concerning reading problems. Because reading difficulty is related to seeing difficulties, emphasis is placed on problems of vision. The publication describes the services of the Reading Clinic of the University of Chicago; reports research studies made by the staff; and provides lists of tests, remedial-reading materials, and trade books useful in work with retarded readers. This monograph may also be obtained from the University of Chicago Press. The price is $3.75.

We conclude this section on editorial policies by pointing out that manuscripts suitable for publication in the monograph series will be wel-

comed by the University of Chicago Press. Although in the past the University itself has supplied most of the material, this was a result of propinquity rather than of policy. Needless to say, manuscripts from persons in all institutions receive the same treatment, including submission to referees and editorial committees for evaluation and recommendation as to publication. Moreover, the Press is pursuing very aggressive policies with respect to securing manuscripts and promoting sales.

Is There an Optimum Size for a High School?

What is the optimum size of a high school? At first, it seems that this should be a relatively easy question to answer, but, on closer analysis, the question is seen to involve issues of considerable complexity. No definite answer seems to be available in the literature. If an answer is eventually secured, it will probably not be found in a single figure. Instead, a formula may be evolved which will yield an optimum figure for a given community in terms of certain specified assumptions and local conditions.

There is plenty of evidence that small high schools cannot provide a superior educational program at reasonable cost. Several studies have arrived at conclusions as to a *minimum* size below which schools are said to be inferior and inefficient. These minimum enrolment figures range from 150 to 500. The Illinois School Problems Commission Appointed by the Governor issued a report, *Illinois School Problems*, in March, 1951, which described a study of 609 high schools in Illinois. The study rated 47 schools as "superior" in the sense that they met substantially all the standards of a "good common-school education." All had over 200 students, and 33 of the schools enrolled more than 500 students. A total of 138, or nearly 23 per cent, of the schools were classified "inferior." No school with more than 700 students was in this group. Although one might question the comprehensiveness of the evaluations on which such conclusions are based, there is little doubt that small schools are at a disadvantage in their efforts to offer superior programs.

It is even more difficult to determine an optimum size than it is to specify a minimum. Cost of operation is one of the major factors involved, but it is by no means the only significant factor. The curriculums of schools of various sizes must be evaluated, including all the learning experiences both formal and informal. Studies must be made of the various services provided, including those relating to guidance and student personnel, libraries, cafeterias, health, and others.

Student attitudes toward education may vary significantly with size of school. Attitudes may, for example, be influenced by differences in the nature of social experiences—friendships and participation in activities—that

normally occur. The attitudes of students may affect their interest in further education and influence the retention rate of the school.

Similarly, the attitudes of the community toward the school may be affected by the size of the school. Larger schools are in a position to offer more and better services to the community. Larger schools tend to have better athletic teams and bigger marching bands. These factors, however superficial they may be individually, probably affect the willingness of the community to provide financial support for the school, and this has a definite influence upon more fundamental factors.

Finally, the attitudes of teachers toward their job, their feelings of responsibility and satisfaction, influence the program. Do these attitudes improve or deteriorate as the enrolment increases? The large faculty makes it more feasible to provide an organized in-service program for teacher improvement. On the other hand, large faculties make it difficult for the administrator to keep in close touch with staff members as individuals.

This brief summary of some of the factors that may determine the optimum size of a secondary school may be sufficient to suggest the complexity of the problem. Further analysis of any of these factors shows why no single figure applicable to all situations is likely to be found. Consider, for example, the question of cost. Data presented in the Report of the Illinois School Problems Commission show that the median cost per pupil in "inferior" schools was $358.00, whereas the median cost in "superior" schools was only $1.00 more, or $359.00 per pupil. In schools of the intermediate class, called "foundation" schools, the corresponding figure was $396.00. The following quotation from the report is of interest.

> The great importance of proper organization is evidenced in the cost figures. It cost less than half as much per pupil to provide a foundation program in high schools of 300 to 1,000 pupils as it cost in schools below 60 pupils. It cost less to provide "superior" programs in schools above 300 pupils than the cost of "inferior" programs in schools of small size.
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> It should also be noted that the savings in cost due to size are not significant once the high school enrols 300 pupils. While schools of larger size are more likely to provide "superior" programs, they do not appear to achieve any financial savings. This conclusion also agrees with the findings of the School Finance and Tax Commission four years ago.

The excessive cost of very small schools is shown by other data in the same report. The median cost per pupil in "inferior" schools enrolling under sixty pupils was given as $560.00, and the highest cost in this classification reached $1,239.00. It is facts such as these, among others, that lead many authorities on school problems to recommend reorganization of districts. In some cases this results, sooner or later, in a move to combine several small high schools into one large one. That more than cost must

be considered was shown dramatically a year or so ago in one town where a small school was to be closed and students were to be sent to a larger school in a neighboring community. The townspeople surrounded the school building with a cordon of automobiles in an effort to keep their local plant in operation.

The "optimum-size" question often arises in another way. In some cases a school plant originally built to house a certain number of students has become, or promises soon to become, seriously overcrowded. Should the old building be enlarged, or should an entirely new plant be built on another site? If enlargement means merely that additional ordinary classrooms are to be built, and if the site is adequate, the problem is easier to solve. Often, however, the gymnasiums, libraries, cafeterias, music-rooms, and similar facilities in the old building are inadequate. If new space and equipment of these types are to be provided, the initial cost of the addition mounts spectacularly and becomes comparable to that of a new plant. Nevertheless, when this cost is distributed over twenty years by a bond issue and the annual outlay is divided by the number of students to be served, the increase in annual cost per pupil may not be large. In the long run, cost of the building may be a factor of minor importance. Transportation problems and costs are also involved, along with the general availability of the school to the community. In these cases some of the factors relating to the attitudes of students, teachers, and the community may be more influential than cost in determining the ultimate decision.

In many studies of educational problems, data have been gathered from a large number of schools of various sizes. Often the report includes a tabulation showing the frequency distribution of schools by size. The purpose of reporting these facts is to establish the representativeness of the schools in the sample. Thereafter, the data are organized and reported in ways which do not permit conclusions to be drawn in relation to school size as a variable. The solution of the problem under discussion here could be helped materially if the designers of such studies would plan in advance to study and report upon relevant variables as a function of school size. Several examples of this practice may help to emphasize the point.

Principal Findings of the 1947–1948 Basic Studies of the Illinois Secondary School Curriculum Program (Bulletin No. 2) has a section on the "Principal Findings of the Holding Power Study." Data were obtained from twenty-two schools outside the city of Chicago during the period 1947–48. The drop-out rate for each ten students who graduated ranged from 0.6 to 8.0, with a median of 2.7. In the five largest schools the rate was 3.3 for boys and 2.2 for girls. The corresponding rates for the five smallest schools were 3.2 and 2.5, respectively. The bulletin summarizes as follows:

> That [the] wide variation in the holding power of the schools must be accounted for on the basis of factors other than school size is clearly implied by the data. . . . For both sexes, the holding power of the five largest and of the five smallest schools in the study was very closely the same.

The discussion of the "Principal Findings of the Participation in Extra-Class Activities Study," reported in the same bulletin, follows the usual practice of giving a general discussion of the type and size of the schools in the sample but does not classify the data in terms of school size. Consequently, no conclusion about the possible relation of participation to size of school can be drawn.

Two recent issues of the Bulletin of the School of Education of Indiana University report certain interesting data in relation to school size. Both bulletins are by Christian W. Jung and William H. Fox.

The first is on *Extracurricular Activities in Indiana High Schools: The General Program, and Student Participation in School Government* (Vol. XXVIII, No. 3, May, 1952). The sample included 442 schools classified into six groups according to size. Group I included schools with fewer than 100 students, and Group VI included schools with enrolments of 750 and up. Each of the thirty-seven tables in this report can be interpreted in relation to school size.

The data and conclusions of this Indiana bulletin are much too extensive to be commented upon in detail here. On many of the items investigated, the variations among schools of different sizes were not extreme. On a number of important issues, however, the report shows that the larger schools are more likely than are the smaller schools to be in the position favored by modern educational theory. Thus to the question, "Are the objectives or aims of the entire activities program formulated?" 89 per cent of the Group VI schools replied "Yes," but only 56 per cent of the smallest schools gave this answer. To the question, "Are the objectives in written form?" the answer was "Yes" from 50 per cent of the largest schools, but only 13 per cent of the smallest schools gave this answer. The results were reversed, and hence might appear to be favorable to the smaller schools, on a question seeking opinions as to whether students receive as much care and counseling in selecting activities as in selecting curricular offerings. In this case 13 per cent of the largest schools replied "Yes," as compared with 35 per cent of the smallest schools. Perhaps this result could be accounted for on the basis of a much more restricted range of opportunity in the smallest schools to select either type of experience.

Again, in the second bulletin, *Extracurricular Activities in Indiana High Schools: The Club Program* (Vol. XXVIII, No. 4, July, 1952), the data favor the larger schools. Both of these bulletins include copies of the questionnaires on which the studies are based, so that comparable investigations in other states, or by individual schools anywhere, are easily possible.

The investigators comment briefly on possible biases in these studies, stating that probably "such biases would lean toward minimizing the extent of unfavorable aspects in the data." The questionnaires were addressed to school principals, and no indications are given as to who actually filled them out. Hence it is still true that the opinions and attitudes of students, of teachers, and of representative parents and other persons in the communities would be of interest if studied in this way.

The typical high school and its community are seldom faced with the problem of deciding on the optimum size for their school. When the problem does arise, an objectively determined answer would help to avoid costly mistakes that may affect the program for years to come. Comprehensive studies, or many smaller studies so designed that general conclusions may be drawn by considering them together, are needed so that wise decisions can be made.

The Mathematical Needs of Engineers—and Others

The article on "The University of Illinois List of Mathematical Competencies" which appears on later pages of this issue of the *School Review* has implications for the high-school curriculum that warrant additional discussion. The writer of these comments is quite ready to agree in general with the major theses of Professor Meserve's article. In particular, the writer is prepared to defend the following four propositions:

1. The traditional method of stating prerequisites for college work in specialized fields in terms of units of required credit in certain courses is unsatisfactory.
2. Admission to college and placement in college courses should be determined by modern evaluation techniques.
3. Such evaluation, in turn, requires a much more precise formulation of the necessary competencies than has hitherto been available.
4. The formulation of a satisfactory statement of competencies should be a co-operative project involving the several groups of persons concerned, including not only experts in the subject-matter fields, in curriculum theory, and in evaluation but also representatives of the teachers who are responsible for developing the competencies.

As Professor Meserve's article makes clear, the work of the Illinois committee is a significant forward step in the direction indicated by these four propositions. There is, however, much more to be done, and implicit in the work thus far accomplished is a threat to the future development of the curriculum in mathematics.

The Illinois list represents an advance in specificity beyond the statement of requirements in terms of course names. The usual form of statement ("Algebra, 2 units; Plane Geometry, 1 unit; Solid Geometry, $\frac{1}{2}$ unit; Trigonometry, $\frac{1}{2}$ unit") permits extreme variations in topic selection, emphasis, and thoroughness of treatment from class to class and from school to school. A more definitive, up-to-date guide is needed.

One of the chief weaknesses of the

Illinois list is that, as it stands, it is no more than a list of topics. It leaves the behavioral aspect of the objectives much less clearly specified. The bulletin on *Mathematical Needs of Prospective Students in the College of Engineering of the University of Illinois* states: "this section lists topics in secondary mathematics, an understanding of which is considered to be indispensable." Although many items in the list use the term *concept* explicitly ("concept of similarity"), all involve concepts implicitly. Numerous items suggest that, in addition to the understanding of the concepts, the behavior desired also includes some *skill*. Until the desired level or depth of understanding of the concepts and the necessary degrees of skill are more precisely defined, teachers in the high schools will be unable to determine how much emphasis is to be given a topic. Professor Meserve recognizes this fact in his article, and he points out that the sample test items supplied in the supplementary bulletin are of help in this respect. Still, a careful analysis and exposition of the behavior desired would add greatly to the ultimate effectiveness of the project.

Another commendable feature of the University of Illinois list is that the topics are not grouped under traditional course names. Teachers are free to organize the learning experiences into general or "integrated" courses, introducing topics from algebra, geometry, and trigonometry as problem needs or the organizing scheme suggests them. The desirability of working out satisfactory integrated courses has long been recognized, and in recent years progress in this direction has been notable. That the topics in the Illinois list remain unstructured in terms of courses is especially remarkable for another reason. Throughout the bulletin and in Professor Meserve's paper, there seems to be a tacit assumption, namely, that the *college* curriculum in mathematics prerequisite to the calculus will continue to be organized into courses on college algebra, trigonometry, and analytic geometry. This assumption may be valid in the case of engineering students at the University of Illinois, but it is not consistent with a durable trend toward the reorganization of mathematics courses at the Freshman level in many colleges.

The fact is that the topics in the University of Illinois list represent the traditional approach to mathematics in secondary schools and colleges. The writer has heard the list spontaneously criticized by a number of mathematicians of the highest professional standing. Although these men cannot be named here, it should be noted that none of them is a resident of Illinois or is associated with the University of Chicago. Briefly, their criticism is to the effect that the list seems to ignore the point of view of modern mathematics. They believe that traditional courses put too much emphasis upon certain topics, of which the solution of oblique triangles and the law of tangents in trigonometry

may be cited as examples. Meanwhile, fundamental concepts, such as *class* or *set*, and modern techniques, such as those involved in statistical studies, are neglected. Those who have this point of view are undoubtedly concerned with the problem of the proper preparation of pure mathematicians and of men able to apply mathematics, not only in engineering, but also in many other fields.

There is no question that the mathematics curriculum in high schools and junior colleges should give students otherwise qualified an adequate preparation for entering modern engineering curriculums in universities. At the same time, the needs of this important but specialized field should not unduly influence the total program. The project under discussion here, and others like it, should be so extended as to insure that the mathematical needs of *all* prospective college students are validly specified. In the meantime, high-school teachers of mathematics should use discretion in pointing to the list to justify the traditional selection and organization of topics as unquestionably suitable for all students.

Centennial Anniversary in St. Louis

THE FIRST PUBLIC HIGH SCHOOL west of the Mississippi River was opened in St. Louis just one hundred years ago. On February 11 a meeting of prominent educators, civic leaders, and public officers is being held to celebrate the centennial of Central High School. Later in the spring a "Festival of Progress in the St. Louis Public Secondary Schools" will also commemorate the event.

Today nearly all boys and girls take it for granted that they may attend a public high school—that is, if they live in the United States. They and their parents may decide that a private school is more desirable, but the decision is theirs to make, and a public high school is almost always accessible. It is hard to realize that this is not true in most of the other countries of the world. It is also hard to realize that one hundred years ago there were no public high schools in the United States west of the Mississippi, and not many in the eastern part of the country. St. Louis is wisely capitalizing the opportunity to remind the public of the significant role that public secondary education has played in the development of our country. A similar opportunity awaits thousands of other high schools as they approach their hundredth anniversaries. On second thought, however, a question arises: Why wait? They should do it today.

Educational TV

THE NEWSPAPERS and the magazines are filled with caustic criticisms of commercial television programs. At the same time, nearly everyone agrees that, in the future, television can make a tremendous contribution toward achieving educational goals. Nevertheless, educational

television is having a struggle to get going.

The Wilmington (Delaware) Board of Education, for example, asked twenty-six community groups whether they would be interested in pooling efforts and resources to launch an educational TV station. The replies were so disappointing that the Board of Education decided to postpone all TV plans for the time being. In Chicago the major universities, colleges, and museums banded together to try to finance a television station. To date they have made little progress. The situation has been well summarized by Frieda Hennock, member of the Federal Communications Commission, in an article on "Basic TV Facts for Education" which appeared in the *Journal of the AER* (Association for Education by Radio) for November, 1952. She writes:

> Given the merit of and need for educational TV, the fundamental question facing education is how it may realize the vast potential of television. The true answer is to get these stations built and on the air as soon as possible. To help you in this endeavor, the Federal Communications Commission has set aside and reserved 242 TV channels throughout the nation for noncommercial educational purposes. But this action provides only the opportunity; local action in these communities is necessary to take advantage of it. This is up to the educational interests in each community and to the many cultural institutions and civic agencies of all kinds who may co-operate with education in the building and operation of these stations. Their failure to do so—even their undue delay—will mean an irreparable loss to all of the people of these communities and thus to our national well-being.

It should be remembered that, while the reservation of channels for education was for an indefinite period, applications to amend the "Table of Assignments" may be filed after June 2, 1953, with the Federal Communications Commission. Many educators fear that pressure from commercial interests will result in loss of the reserved channels. Moreover, stations on these channels must operate on a completely noncommercial basis, which means that they cannot sell part of their time in order to finance educational programs during the other part. This is undoubtedly a wise regulation. The temptation to sell time for advertising would lead to many compromising situations which would, in the long run, diminish the educational influence of the station.

The cost of a TV station is said to be from $200,000 upwards. Few educational institutions are in a position to allocate funds of this magnitude to the building of television facilities. It is encouraging, however, to note a story in the *Chicago Daily News* on December 23, 1952, which reported that educational stations are under construction in ten cities and that nine others have filed applications with the Commission. The same article announced a plan for financing a Chicago station by selling shares of stock in a nonprofit corporation to citizens at a price of $2.00 per share. The number of shares sold to any individual or organization would be limited. The plan, as drawn up by William Howlett, consultant to the

National Committee for Educational Television, would be put in operation by an executive board composed of representatives of interested groups.

This plan, if it actually becomes operative, may save the day for educational television in Chicago and elsewhere. Through a very small investment, a citizen can make available, not only to himself, but to others, educational opportunities that would otherwise be restricted to a privileged few. Once the financial problem is solved, others will arise. Worth-while programs must be prepared, and viewers must be trained to be discriminating in their selections. The schools should begin now to prepare for a stellar role in this phase of educational TV.

The successful outcome of the campaign a year ago to insure the allocation of TV channels to education and the struggle since then to move forward and establish stations have perhaps tended to obscure a more fundamental issue. Was the action of the Commission as much in the public interest as it should have been? Commissioner Hennock did not think so, and she filed a dissent to the Commission's Sixth Report and Order referred to above. For a careful discussion of this issue, readers may wish to consult *Vision in Television: The Origins and Potentialities of Educational Television*, a little book by Hazel Cooley published late in 1952 by the Channel Press (1440 Broadway, New York 18). It presents in an appendix the full text of Commissioner Hennock's dissent. The price of the book is $2.00.

Scheduling Driver Education

Driver-education enrolments appear to be leveling off after a period of rapid growth. One of the major difficulties in this unfortunate situation probably arises in connection with the awarding of "credit" for this work. Many students are able to acquire the necessary items of information, attitudes, and skills in less than a semester of instruction. Courses that involve less than a semester are difficult to fit into a traditional organization of the high-school curriculum

Evidence to support these conclusions is not hard to find. An example is provided by the following quotation from the October 31, 1952, issue of the *Quarterly Bulletin* published by the Institute of Transportation and Traffic Engineering of the University of California. The statements are said to be based on data from 167 schools in California.

(1) Most schools have a qualified teacher but one-sixth (mostly smaller schools) do not. (2) Only one-third of the schools offer driver education as a separate course. (3) In a fifth of the schools the course runs a full semester; in half, six weeks; in another fifth, less than ten hours. (4) Although the course has to be scheduled in the ninth or tenth grade if most students are to be reached before they attain driving age of sixteen, one-fourth the schools offer it in the eleventh or twelfth grade. (5) More than half the schools omit behind-the-wheel instruction, mainly because of cost and difficulties of programing.

One partial solution of this problem for some schools is to offer the training on Saturdays, giving less attention to the "credit" angle, and more to the role of the school in meeting adolescent and community needs. Many high-school students could and would arrange for instruction on Saturday, and most of the programing difficulties would then evaporate.

In Grand Forks, North Dakota, the high school offered driver education to adults. Superintendent Elroy H Schroeder and Instructor Verl L. Clark, writing in the *North Dakota Teacher* for December, 1952, on "An Experiment in Driver Education," have this to say:

> In the summer of 1952 a new experiment was attempted. Driver education was offered to adults in the city. The superintendent and the instructor agreed mutually that one announcement would be made in the local newspaper and that the twenty hours of driving in the dually controlled car would be given for $20.00. The School Board would furnish the car and car insurance, and the $20.00 would be used for compensating the instructor for his time and expense. It was hoped that a sufficient number would enrol to give the instructor two classes as part-time work while he was attending the university. The one newspaper announcement brought out almost fifty requests for the course. Twenty were actually trained. More would have been trained if a qualified driver and an an additional car had been available. This is evidence of the tremendous interest that is latent in a community.

If adults are to be given driver training in the summer, why cannot it also be given then or on Saturdays to the young people?

University of Chicago Tea

THE Department of Education of the University of Chicago invites friends and alumni of the University who will be at the meeting of the American Association of School Administrators in Atlantic City to attend a tea on February 17, 1953, from four to six o'clock in the afternoon. The tea will be given in the Ozone Room of the Hotel Dennis.

MAURICE L. HARTUNG

Who's Who for February

Authors of news notes and articles The news notes in this issue have been prepared by Maurice L. Hartung, associate professor of education at the University of Chicago. Clyde E. Curran, associate professor of education at Suffolk University, Boston, Massachusetts, tells why general education is necessary, defines its scope, describes the types of persons who possess it, and sets forth the schools' responsibility in providing it. Bruce E. Meserve, assistant professor of mathematics at the University of Illinois, writes about the new statement of college-entrance requirements in mathematics developed by the University of Illinois. Editha Luecke, professor of home economics at North Texas State College, Denton, Texas, gives the results of a study in which the social adjustment of college students was found to improve, as measured by objective tests, after a course in social fundamentals. Ray H. Simpson, professor of educational psychology at the University of Illinois, and Kenneth L. Camp, supervisor of dramatics at Horton Watkins High School, La Due, Missouri, interpret the responses to a questionnaire which was sent to parents to determine to what extent the school was affecting out-of-school reading. The selected references in the various subject fields have been prepared by the following persons: Dora V. Smith, professor of education, University of Minnesota; Robert E. Keohane, assistant professor of social sciences, Shimer College, Mount Carroll, Illinois; Edna E. Eisen, professor of geography, Kent State University, Kent, Ohio; Wilbur L. Beauchamp, professor of the teaching of science, University of Chicago; George E. Hawkins, administrative assistant and chairman of the department of mathematics at Lyons Township High School and Junior College, La Grange, Illinois; Francis F. Powers, dean of the College of Education of the University of Washington; and Kenneth D. Norberg, associate professor of education and coordinator of audio-visual services at Sacramento State College, Sacramento, California.

Reviewers of books John W. Devor, professor of education at Asbury College, Wilmore, Kentucky. G. P. Cahoon, professor of Education at Ohio State University.

WHAT IS GENERAL EDUCATION?

CLYDE E. CURRAN
Suffolk University, Boston, Massachusetts

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GENERAL EDUCATION is important today for two predominant reasons, both of which stem from contemporary social conditions. The first concerns vocational training; the second, specialization.

ADEQUATE VOCATIONAL TRAINING REQUIRES GENERAL EDUCATION

The amount of skill required to perform most jobs in our modern industrial society is decreasing. Machines now do the work that men formerly had to do. While vocations demand less training and experience and yield fewer personal satisfactions, successful living requires more and more insight. Over the relatively short period of about fifty years, social conditions have changed so rapidly that the importance of education for competent living supersedes the importance of preparation in specific vocational techniques. The average worker may use little skill on the job, but, to fulfil adequately his prerogative as voter and citizen, he must command a shrewd judgment.

Rapidly changing social conditions have also thrown added burdens upon marriage and parenthood. The high divorce rate testifies to this fact. To extract expanding love and companionship from family life, to turn these delicately tuned personal relations from chaos into the deepest of human satisfactions, imposes a gigantic responsibility upon men and women.

The use of machines has given us more leisure time, but to capitalize on this condition, to transform idle hours into constructive pleasure, poses another problem. Although today's vocations give workers more leisure time and demand less skill, they yield fewer satisfactions.

The worker lives in a complicated world where living fully as citizen, partner in marriage, and parent, while reaping the fullest pleasures from our culture, calls for a broad education—a general education.

What have schools done about this condition? Until the turn of the present century, most secondary schools concentrated on a college-preparatory curriculum. From about 1900 until the present time, educators worked with the problem of building suitable vocational schools. To keep pace with the growing demands of a rapidly expanding industrial country, schools needed to give instruction in industrial arts. Compulsory attendance laws complicated the situation further by forcing into secondary schools a

widely diversified group of young people who had previously gone to work. They wanted training that would fit them for jobs in industry.

Training in industrial arts required that machine shops, printing shops, and electrical, sheet-metal, and carpentry shops be added to the school plant. By the time sufficient money had been raised for these additions and most up-and-coming communities had provided facilities for giving training in journeyman crafts, new conditions in industry made the training provided by secondary schools practically useless on the job. Surveys of industries showed that less and less skill was required as more complicated machines were used. Vocational training that focused almost entirely upon teaching specific mechanical skills, the kind provided in secondary schools throughout the country, wasted the time of the teachers and students, for it did not provide the training needed to find and keep a job.

Today employers in industry seek well-rounded young people. Men who do the hiring want graduates of high schools and colleges who take an interest in the affairs of their community, who get along with people, who read well and have wide interests, who have an understanding of our cultural heritage, who have the good sense to adjust to the conditions under which they work, and who know how to think reflectively. Specific training in the mechanics of business and industry will no longer suffice. Adequate vocational training today demands a general education.

GENERAL EDUCATION REQUIRED BY INCREASING SPECIALIZATION

Specialization is the second social condition that requires schools to give a general education. The specialization which typifies modern society develops individuals with a partial vision of the world. They see the panorama of current events, not in relation to an integrated pattern with roots growing out of history, but from the frame of their particular specialty. Doctors, scientists, or workers on assembly lines develop attitudes and dispositions that reflect their specialties. Workers and employers, for example, approach questions of policy from different backgrounds. Thus they find themselves ensnared in perpetual disputes. Professional men live in a world that tends to give them not a unified and complete understanding of their total community but a slant commensurable with their specialty. All of us, because of the need for specialization in our culture today, live in little worlds of our own, which have a particular set of customs. This tendency for barriers to grow between people because of the work they do and the way they live is a serious threat to our democracy.

Whether a man works as a banker or a laborer, a scientist or an automobile mechanic, whether he is a high-school graduate or has advanced degrees from universities, everyone in a democracy has a stake in what happens to others. In a democracy it is absolutely essential that people develop areas of understanding about which

(regardless of some drastic differences of opinion) all can say, "We hold this in common." Men widely separated in education, in economic position, in religious beliefs, in political affiliations can develop areas of common understanding. A democratic community cannot hold together without this integration.

Men are not endowed at birth with the ability to understand and work out common destinies together. Democracy is not a gift; it is a process, the operation of which requires tremendous effort. A large share of the burden of developing understanding falls into the hands of teachers. They must seek to teach youth, regardless of differences in backgrounds, how to understand one another and how to build strong community ties. This requires a general education.

WHAT PERSONS WITH GENERAL EDUCATION ARE LIKE

What qualities of behavior does a person with a general education show? He understands and cherishes the people with whom he associates. He satisfies his physical wants in a way that brings satisfaction to himself, his family, and his friends. In his acts affecting local, national, and international events, he shows extraordinary balance and insight. His every move is marked with enthusiasm. A burning curiosity continuously takes him into wonderful adventures of the mind and spirit.

Where do we find such people? In every walk of life. The pity is that there are so few. And even more pitiful, the forces which seem to influence their development have been left to chance. The ranks of those with general educations are filled by people from every occupational and educational level; even many with no formal education find room here. They seem to acquire their breadth of personal development by accident and often without the aid of schools.

KIND OF LEARNING NECESSARY FOR GENERAL EDUCATION

Does reading classics necessarily give an individual the attributes spoken of? Certainly not! Just look at the hundreds of college professors who have absorbed great books but who have none of the preceding characteristics. Despite great erudition, their way of life has narrowed their horizons. On the other hand, hundreds of individuals walk the streets every day who have not read one classic but who have all the qualities of the generally educated. What does this mean? The answer is obvious and simple, and practically every poet and sage has pointed it out. The answer is that we learn the way to wisdom or foolishness through living, that we become what we are through the kinds of experiences we have.

If educators wish to control human development, they must, then, learn how to analyze the intricacies of human experience and how to provide experiences that shape human personality toward desirable ends. To suppose that a book or a set of books or any other form of verbalization, no matter how wonderful, automatically

invokes desired responses, overlooks the principles of how people grow, develop, and learn. The assumption underlying the notion that verbalizations spontaneously enter into human behavior must proceed from the conviction that people learn through the process of passive reception.

But learning is a dynamic affair. The backlog of personality traits that people have developed largely determines the effect that an idea or a book will have upon them. More often than not, new ideas, presented verbally, even when understood intellectually, do not become effective in human behavior. There are several reasons for this: the individual has not had sufficient familiarity with the idea to adopt it temperamentally, or he has dispositions that reject the idea, or the idea remains verbal because it is no part of a vital experience. In addition to the total personality of the individual involved, the situation under which contact with the book or idea is made shades the kind of experiences undergone. An individual may come into contact with books and ideas which his background would enable him to understand and incorporate into his personality, but there may be situational difficulties that prevent him from having positive experiences with them. Such difficulties may include a wide variety of physical and psychological disturbances, such as noise, fatigue, bad air, distracting colors, heat, boredom, and anxiety.

Furthermore, because of misunderstanding about the place that books really take in pupils' lives, the tendency in school is to replace vital experience with verbalizations. The place of books depends upon the kinds of experiences that students have had with them. The treatment of Shakespeare in many high schools and colleges serves as a good example of how ineffective are our methods of working books into the lives of students. The young people undergo such unpleasant experiences with these plays that any desire to read books of the so-called "cultural" variety is killed. Many teachers insist that students memorize long, pithy passages of Shakespeare's plays and repeat endless facts about plot and characters. If the student succeeds in performing these exercises with dexterity, he receives an A and the nod of assurance that lets him know he has done good work, although this experience may have instilled in him such a loathing of literature that he will never voluntarily pick up another book of this kind.

METHODS NECESSARY FOR GENERAL EDUCATION

What, then, is general education? Educators have been heading the wrong way when they devote their time almost solely to the organization and reorganization of curriculum content. They cannot be too careful in their organization of curriculums, but this alone will not give students the broad insights needed for successful living in contemporary society. Edu-

cators have been searching for the set of subjects or the arrangement of subjects that will give students broad and penetrating understandings. By now they realize that subjects alone cannot do this.

The answer to the question, "What is general education?" concerns method as well as content—but not method in the narrow sense of devising teaching techniques to transmit subject matter to students. This idea is a counterpart of the notion that, once educators have found the right content, their problems are solved. The methodology needed by teachers today must take them into conditions under which people learn and develop —into the scientific study of human behavior, especially the generative force of conduct, namely, the emotions. Situations that psychologists, sociologists, biologists, and philosophers have studied for years must become a part of teachers' backgrounds. From such disciplines they must build generalizations and skills for analyzing the personalities, backgrounds, and experiences of students. They must understand the dynamic forces of life that shape people. They must become applied scientists of human relations.

In addition to studying the effect that human experience has on personality, educators must know how to provide educative experiences that will take student growth toward desired goals. What makes this particularly difficult is the place of the student in the educative situation. The student does the experiencing, and the propensity for participating in one rather than another shade of meaning connected with an experience depends upon his total personality. The student's desires, habits, and attitudes, which have developed through his contact with life, open or close the possibility that specific situations will have effects upon him. Furthermore, teachers enter classrooms with personality facets that often conflict with the backgrounds of the students. Thus teachers become immersed in personal relations which they, too, must often modify. This conflict complicates the educative scene even further.

When teachers endeavor to stimulate educative experiences, they cannot simply impose a set of materials, objects, or ideas upon the student and expect to obtain results. They must know the student and the kinds of experiences that he is having in the classroom and the effect that these have upon his personality. Then follows the difficult process of continuously providing situations that will shape his personality in desired directions. The error made by many educators is to overlook the simple fact that the student is the focal point.

EVALUATING THE GENERAL-EDUCATION PROGRAM

Keeping constant check upon the results of in-school experiences is one of the most significant phases of method. Teachers must possess accurate evidence about the effectiveness

of what they do. They must know whether their ways of handling experience get the desired results. Despite the thousands of tests in use today, teachers are almost completely at sea on this score. They do not know whether they are getting results.

To check this point, ask teachers or administrators of high schools and colleges what books recent graduates read and enjoy and why they read those books, what occupations they follow and what part the school has had in preparing them for these occupations, which graduates are married and what the school has done to make this intricate human relationship lasting and worthy, and so on. You will find that these questions will embarrass educators simply because they do not know the answers and because they are part of a system that makes practically no attempt to find the answers. Yet schools claim to equip youth in all these and in many more practical areas of living. One of the most essential and neglected phases of method is evaluating the results of teaching in the light of practical accomplishments.

Studying the students' social and psychological backgrounds, providing educative experiences that will further student growth, and continually checking to see in what direction school experiences take the students constitute the outline of the method that teachers should follow.

THE PLACE OF THE TEACHER IN GENERAL EDUCATION

But what has this to do with general education? The very way people live, the culture that nurtures them, are shot through with forces that tend to narrow their lives. If we examine almost any section of our culture, we see restricting and narrowing influences at work. The hundreds of prejudices that people harbor; occupational specialization that tends to isolate; widespread discrepancies in values and in religious orientation; crime; delinquency; distrust; the approach to art, literature, and music that either develops the snobbish aesthete or leads to boredom; the conditions underlying anxiety—all these take their toll of human personality by pressing it into restricting confines. Study of these forces constitutes part of the elaborate method needed to improve teaching. Providing general education, however, takes more than mere knowledge in the scientific sense, although this is an essential first step. Education, by the very meaning of the word, signifies desire for moral improvement. Thus we who educate commit ourselves to the task of trying to improve conditions. Desire for human betterment, supplemented by a realistic insight into what stands in the way of educational fulfilment and by a working method for overcoming the obstacles, places in the hands of teachers the tools for providing general education.

THE UNIVERSITY OF ILLINOIS LIST OF MATHEMATICAL COMPETENCIES

BRUCE E. MESERVE
University of Illinois

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TWO CONDITIONS in Illinois make it desirable to reconsider the mathematical preparation of prospective college students. A group of educators has questioned the effectiveness of present methods of stating entrance requirements for college. At the same time, the College of Engineering of the University of Illinois, in its efforts to keep pace with the scientific advances of our time, is striving to have Freshmen start their college mathematics with analytic geometry. These conditions are merely local manifestations of two basic conditions that are common throughout the country: the desire of many educators to know exactly what competencies their students need and the increasing need for mathematical competencies in the applications of scientific advances in our culture.

How should mathematics teachers react to these needs? Should we teach only the mathematical concepts that every student needs, or should we try to impart a thorough mastery of elementary mathematics, including some of the concepts of calculus? Neither extreme appears desirable for *all* students. Teachers, administrators, and scientists can look forward to mutually satisfactory programs in elementary- and secondary-school mathematics if all concerned with meeting the needs of the students co-operate in planning the programs. This will take time and considerable study. We must determine the competencies needed by all types of students, and we must determine when the students are ready for, and in need of, those competencies.

BACKGROUND OF THE PRESENT LIST

Two years ago the Steering Committee of the Illinois Secondary School Curriculum Program proposed the elimination of the unit credit system of stating college-entrance requirements. This committee, which has cooperated with the Illinois Secondary-School Principals' Association and thirty-two other state-wide professional and lay organizations, is sponsored by the state superintendent of public instruction. A bulletin prepared by the Steering Committee quoted from an earlier report of the Eight-Year Study:

> The assumption that preparation for the liberal arts college depends upon the study of certain prescribed subjects in the secondary school is no longer tenable. . . .

> The conclusion must be drawn . . . that the assumption upon which school and college relations have been based in the past must be abandoned. . . .
>
> To move ahead, schools must have encouragement from colleges. To give that encouragement, colleges must abandon their present admissions policy.[1]

The committee accordingly recommended a new college-admissions policy based primarily on tests. For *general college work*, the following five criteria were proposed: (1) score on a scholastic aptitude test, (2) score on a test of critical reading, (3) score on a test of writing skill, (4) score on a simple mathematical test, and (5) evidence that the student has an intellectual interest and some effective study habits.

For specialized curriculums which begin in the Freshman year of college, certain other specified competencies may be required. For example, mathematical competencies may be required for students of engineering. The high schools are urged to provide means for students to acquire these competencies prior to graduation, and the colleges are urged to determine the attainment of the competencies by means of standard tests rather than to accept credits in specified courses. When small high schools are unable to provide specialized courses to meet the needs of their graduates, "the colleges are urged to make provisions for the basic specialized work with as little handicap to the student as possible."

At the University of Illinois about one-tenth of the Freshmen who enter the College of Liberal Arts and Sciences have had less than two years of high-school mathematics and must take a course in basic inathematics before graduation. However, there are two good reasons why public school teachers should not complacently assume that college-preparatory students can learn all the mathematics they need after they arrive at college: First, in recent years only about one out of four of the students who entered with less than two years of high-school mathematics has been able to overcome the handicap of inadequate preparation and to complete college training. Second, the postponement of mathematical training noticeably extends the number of years that many students must spend in college. Thus, inadequate high-school preparation for college reduces the probability that the student can obtain a college degree and increases the financial investment and the amount of time required to earn a degree.

The new admission requirements were not proposed by the University of Illinois and have not been accepted by the University of Illinois. However, recommendations formulated by a group of professional educators can-

[1] Wilford M. Aikin, *The Story of the Eight-Year Study*, pp. 118–22. Adventure in American Education, Vol. I. New York: Harper & Bros., 1942.

Quoted in *New College Admission Requirements Recommended*, pp. 10, 11. Illinois Secondary School Curriculum Program, Bulletin No. 9. Circular Series A, No. 51. Springfield, Illinois: Vernon L. Nickell, Superintendent of Public Instruction, 1950.

not be ignored. Also, the Federation of Illinois Colleges, an association of private colleges, has approved the recommendations, at least in principle.

If the colleges cannot expect entering Freshmen to have any particular course or sequence of courses in high school, what subject-matter content can they expect? The colleges must specify the competencies that college-preparatory students need and must consider with the secondary schools the problem of meeting these needs.

In addition to the recommendations of the Illinois Secondary School Curriculum Program, a second force at the University of Illinois makes desirable a reconsideration of the mathematical preparation for college. The College of Engineering is striving to keep abreast of the scientific advances of our time while continuing to offer a Bachelor's degree for four years of college work. It is well known that in many engineering courses successful work is dependent upon the mathematical preparation of the students. A large number of entering students have had four years of high-school mathematics and are ready to begin their college mathematics with analytic geometry. Others must spend a semester taking college algebra and trigonometry. It was felt that many of these students would prepare themselves for analytic geometry before coming to college if they knew what topics they should master. Students who have mastered the competencies in the University of Illinois list are able to start their college mathematics with analytic geometry and then to take college physics concurrently with calculus the second semester of their Freshman year. Considerable time can be saved in this way. All engineering curriculums at the University of Illinois have been revised, effective September, 1953, to start with analytic geometry in the first semester of the Freshman year.

From the point of view of the teacher of mathematics, the two conditions that I have mentioned have a common significance. Each requires that we know what competencies the students actually need. The University of Illinois list of competencies is a start on this problem. The procedure used by the committee to develop the Illinois list has been described elsewhere,[2] but a summary follows.

DEVELOPMENT OF THE LIST

The committee was organized about three years ago. It consisted of two members of the faculty of the College of Engineering, two from the College of Education, and two from the Department of Mathematics. After considering other studies and interviewing about 150 students and staff members, the committee formulated a list of topics based primarily upon the mathematical needs in college courses. This list was circulated as a check list to all staff members of the College of Engineering who were teaching Fresh-

[2] Kenneth B. Henderson and Kern Dickman, "Minimum Mathematical Needs of Prospective Students in a College of Engineering," *Mathematics Teacher*, XLV (February, 1952), 89–93.

man courses and to a selected group of staff members of the Department of Mathematics. Next, a revised list was circulated to the mathematics teachers of nine high schools. Members of the committee met with the mathematics departments of most of these schools and discussed the list of topics in detail. The final list reflected the excellent suggestions of the secondary-school teachers. This list was approved by the Policy and Development Committee of the College of Engineering and was published in a University of Illinois Bulletin.[3]

The University of Illinois list contains ninety-seven topics and includes such concepts as the following:

Fundamental operations, including mental calculations with integers, common fractions, decimals, and mixed numbers

Concept of percentage, including per cent of increase and decrease

Concept of ratio and proportion, of measurement and standard units, of an approximate number, precision of a measurement, significant digits, and rounding-off

Addition, subtraction, multiplication, and division of signed numbers, polynomials, algebraic fractions, radicals, and complex numbers

Concept of a plane angle, dihedral angle, congruence, similarity, symmetry, locus, definition, postulate, and theorem

Thirty of the topics, those commonly associated with college algebra and trigonometry, are designated by asterisks. The unmarked list is a minimum list for students who plan to start their college mathematics with college algebra and trigonometry or any other courses requiring at least two years of high-school mathematics. The complete list is for students who wish to start with analytic geometry or any other course having college algebra and trigonometry as prerequisites. There is also a list of thirteen supplementary topics that are not indispensable but are recommended if there is time to cover them. We are very pleased when our students have some mastery of the supplementary topics, but we are primarily concerned with a thorough coverage of the topics on the minimum list.

All topics on the University of Illinois list are covered in the traditional college-preparatory courses of most four-year mathematics programs. Thus we are not asking for additional subject matter. Rather, we are trying to specify what we mean by four years of high-school mathematics. The colleges are interested in the competencies of the prospective student—his ability to perform mathematical operations and to understand and apply mathematical concepts. Traditional courses, when properly taught, satisfy these needs.

STUDENTS TO WHOM LIST APPLIES

Specifically, which students would profit by a study of the topics in the University of Illinois list? Starting in September, 1953, all entering Freshmen in the College of Engineering, the

[3] *Mathematical Needs of Prospective Students at the College of Engineering of the University of Illinois*. University of Illinois Bulletin, Vol. XLIX, No. 18. Urbana, Illinois: University of Illinois, 1951.

Reviewed in "Aids to Teaching," *Mathematics Teacher*, XLV (October, 1952), 462.

agricultural-engineering curriculum of the College of Agriculture, or the chemical-engineering curriculum of the College of Liberal Arts and Sciences at the University of Illinois must have these competencies in order to enter the University of Illinois without deficiencies. Students in mathematics, chemistry, physics, and in all curriculums requiring a course in college chemistry or physics must acquire these competencies in secondary school or complete them in college. Curriculums leading to a degree in nursing and premedical curriculums usually require chemistry.

Many other students would find knowledge of the topics in the Illinois list a real asset. The Educational Policies Commission has recommended that students with high intelligence quotients be required to take four years of high-school mathematics, including some calculus if possible.[4] With the exception of students whose abilities lie primarily in music or art, these bright students tend to go into situations in which the four years of mathematics will be very useful. For example, a friend of mine recently arrived on the University of Illinois campus to work on a doctorate in zoölogy. Although she has a Master's degree, she must take college algebra, trigonometry, and two other semesters of undergraduate mathematics before taking physical chemistry. In general, competency in mathematics will be a real asset to students in the biological and physical sciences and in curriculums such as economics, agriculture, and psychology, in which statistics is used as a tool. Graduate programs in these fields now require mathematics. The present trend will certainly result later in undergraduate needs for mathematics. Meanwhile, any student with the additional preparation in mathematics will have a real advantage.

It should be emphasized that the University of Illinois list of topics applies to all these groups of students, not merely to engineers. The unmarked list applies to all students in curriculums with college algebra as a Freshman course. The complete list applies to all students who wish to start their college programs with any course having college algebra and trigonometry as prerequisites.

STUDY OF EXISTING PROGRAMS NEEDED

The next question and the basic question is: How do the needs of these students affect our mathematics programs?

One of the major problems that the University of Illinois list of topics has created for the high schools appears to be: What degree of mastery or depth of understanding of concepts and what degree of facility in formal manipulation is implied? The development of the minimum list of topics, the development of tests to measure the competencies attained by the student

[4] Educational Policies Commission, *Education of the Gifted*. Washington: Educational Policies Commission of the National Education Association and the American Association of School Administrators, 1950.

and to indicate the thoroughness expected in covering the topics, and the development of an experimental curriculum at the University High School —these are the principal steps that we are taking at the University of Illinois to help answer this question. We have issued a five-page supplement to our bulletin on *Mathematical Needs of Prospective Students at the College of Engineering*, describing the multiple-choice, machine-scored tests that we shall use to measure the thoroughness with which the topics in the minimum list have been covered. There are forty sample test questions in this supplement, and it is hoped that they will give an indication of the degree of mastery that is desired.

The College of Engineering, the College of Education, the Department of Mathematics, and the University High School are co-operating in the development of an experimental mathematical curriculum for Grades IX through XII. At the University High School we are seeking to develop a mathematics program of such a nature that the first year, or preferably the first two years, may be taken as terminal courses in mathematics and the complete program may be taken to satisfy the needs of prospective engineers. It is assumed that the mathematical needs for prospective engineers are essentially the same as the needs for students preparing for study in any area requiring courses in collegiate mathematics. We plan to specify, at least for our own use, the aspects of each topic in the minimum list that we shall include in each of Grades IX, X, XI, and XII. These topics and those for students who plan to terminate their mathematical training at the end of the ninth or tenth year will form the basis for courses that we shall offer at the University High School.

The mathematical competencies that are needed by terminal students must also be determined. The Illinois list of mathematical competencies represents a start in the determination of competencies needed by college-preparatory students. There is still a great deal to be done in specifying these competencies more exactly. Eventually, the lists of competencies will make it possible to reorganize secondary-school programs in mathematics without causing either colleges or parents undue concern.

Another major problem is: How can the high-school mathematics program be organized to satisfy most effectively the needs of the students?

The freedom to reorganize the curriculum is highly desirable for the secondary schools. The colleges are interested in the competencies of prospective students, but the organization of the secondary-school mathematics program should be a responsibility of the secondary schools. Most colleges are satisfied with the present college-preparatory courses when they are well taught, but it is certainly conceivable that there may exist more effective organizations of high-school mathematics. Indeed, one of the outstanding present trends appears to be

the removal of some of the artificial barriers separating algebra and geometry. Why should mathematics be compartmentalized into a year of algebra, a year of geometry, a half-year of algebra, a half-year of solid geometry, a half-year of college algebra, and a half-year of trigonometry? Why not use geometric concepts to aid in the visualization of algebraic processes? Why not use algebraic representations to add meaning and usefulness to geometric concepts? Many outstanding teachers are emphasizing these interrelations between algebra and geometry.

The present trend is away from the compartmentalization of mathematics to a teaching of mathematics according to the difficulty of the concepts and the needs of the pupils. This trend is evident in many textbooks even though their titles have not changed. It is evident in the discussions at the meetings of the National Council of Teachers of Mathematics. It is evident in the classroom procedure of some of our most effective teachers. It is the basis for new programs in mathematics that are being developed in New York, Florida, California, in several of the provinces of Canada, and in many high schools throughout our country. Many of these new programs appear to be fully as effective as the usual programs in meeting the needs of college-preparatory students, if not more effective.

Our experimental course at the University of Illinois High School represents an attempt to bring the advantages of this trend into the classroom. We are, accordingly, reconsidering the entire mathematical curriculum at the University High School, keeping in mind not only the needs of terminal and of college-preparatory students, but also the development of mathematical concepts according to their difficulty and their inherent relationships.

We do not expect to make radical changes in the total subject-matter content. We do expect to change the emphasis and the point of view in several places, to consider numerical trigonometry and deductive thinking earlier than usual, and to reduce the emphasis upon detailed manipulations of the type frequently associated with college-entrance examinations. There will be fully as many proofs as usual, but fundamental principles rather than memorized procedures will be stressed. There will be more geometry in the algebra and more algebra in the geometry. We feel that this reorganization and the emphasis upon fundamental concepts will greatly improve the effectiveness of the early courses as terminal courses and will noticeably facilitate the mathematical development of students taking four years of mathematics. Students in schools that are unable to offer four years of mathematics may take the necessary courses by correspondence. This is common in Wisconsin, where the school boards are required to pay the fees. It is possible in Illinois, Iowa, and many other states.

CONCLUDING COMMENTS

I shall conclude with a few remarks about the responsibilities of elementary and secondary schools—the responsibilities of public schools to the public in general and their pupils in particular.

Many recognized studies, including that of the Committee on Post-War Plans, have found that, with proper readiness programs, pupils master and enjoy number concepts at any early age. In both elementary and secondary schools, the science programs should emphasize concepts of measure and magnitude. In elementary and secondary schools and in colleges, each student must be stimulated and challenged to develop to the extent of his ability. In order to base our mathematical programs upon competencies needed by the students, we need further evaluations of those competencies. The University of Illinois list of mathematical competencies provides a starting point for continued study by colleges and secondary schools of the competencies needed by college-preparatory students. It represents an attempt to specify competencies rather than to require courses which often vary with the textbook at hand. Most important of all, it provides a basis for increased co-operation between the schools and the colleges in meeting their common responsibilities to their students.

A COURSE IN SOCIAL FUNDAMENTALS CONTRIBUTES TO ADJUSTMENT

EDITHA LUECKE
North Texas State College, Denton, Texas

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PERSONAL AND SOCIAL ADJUSTMENT of high-school and college students, as measured by personality tests and adjustment inventories, can be improved through courses in social fundamentals, as has been reported in several Texas studies. Factors pointed out as responsible for the improvement include course content and class procedures which provide a permissive atmosphere. Studies of course content are based on, or directly related to, students' problems of physical appearance, developing friendships, dating, and establishing satisfactory vocational, professional, or business relationships. Studies dealing with method emphasize the students' privileges and responsibilities for active participation in planning and carrying out the program of work for the semester. The studies include anecdotal records of students' remarks and comments which express feelings of satisfaction with regard to their improvement in social conduct, in self-confidence, and in social relationships.

In 1950, Pinkston,[1] working with two groups of forty-four college Freshmen at North Texas State College found that students in education classes in which the "group process" was used made higher adjustment scores than students in classes taught by the textbook method. In 1951, Wester,[2] working with thirty-five Gainesville High School homemaking students on their personal and social problems, found significant increases in scores on adjustment tests after she had taught specialized units on personality development. Wester worked with the students in selecting course content based on their needs and interests. Furthermore, she used informal procedures in the classroom, held individual conferences with the students, and sponsored an out-of-class social program. The statistical findings of this study were supported by sociometric tests and observations which showed how individuals who were formerly rejected established friendships and became accepted members of a group.

[1] John R. Pinkston, "An Evaluation of Teaching Techniques as Evidenced by the Guilford-Martin Temperament Inventory." Unpublished Master's thesis, School of Education, North Texas State College, Denton, Texas, 1950.

[2] Dean Wester, "The Effectiveness of a Specialized Unit in Improving the Adjustment of Homemaking Girls." Unpublished Master's thesis, School of Home Economics, North Texas State College, Denton, Texas, 1951.

THE PRESENT STUDY

A steady increase in the class enrolment, together with favorable comments of students and apparent changes in their attitude, has focused attention on the intrinsic value of a course in social fundamentals at North Texas State College. Offered as an elective by the School of Home Economics over a period of twenty years, the enrolment in the course has grown continuously. Unsolicited comments of the class members to teachers in other fields, as well as to the home-economics staff, indicate that students in this course gain something which helps them with their personal, social, and professional problems in a manner not experienced elsewhere in the college curriculum. Furthermore, their change in attitude as the work of the semester progresses furnishes additional evidence of improved adjustment. This article is a preliminary report of a more extended study which made use of selected tests to determine the contributions that the course in social fundamentals makes to the personal and social adjustment of college students.

SOURCE OF DATA

One hundred and forty students in four classes of social fundamentals participated in this study during the fall semester of 1952. After tentative objectives had been defined, the teacher and students planned the content of the course jointly. The following out-of-class social events were set up as an integral part of the semester's program: an informal picnic, a semi-formal tea, a formal dinner, a formal dance, and a mock wedding. Class activities revolved about recognizing, analyzing, and developing information on the social usage related to this program. Other areas of social usage included were men's and women's manners for various occasions and circumstances, entertaining at home, table etiquette, conversation, and correspondence.

In addition to occasional lectures, class activities consisted in informal group discussion, with leaders chosen from the class; committee work; reports; demonstrations; and sociodrama. Mock service was used in the study of teas, meal service, and table manners.

In the gathering of the data, three instruments were used for pretesting and final testing. To measure acquaintance with, and understanding of, the rules of social conduct, Stephenson and Millett's Test on Social Usage (published by McKnight and McKnight, Bloomington, Illinois) was employed. The Guilford-Bell Personnel Inventory (Sheridan Supply Co., Beverly Hills, California) was used to ascertain change in personality traits, and Bell's Adjustment Inventory (Stanford University Press) was employed to measure improvement in adjustment. Although the Test on Social Usage was designed for secondary schools, it was considered fairly satisfactory for the purpose of this study. It covers most of the social situations included in the course and has sufficient spread to show any improvement achieved by superior stu-

dents. The divisions of the test concerned living with others, introductions, writing letters, invitations, parties, eating, dating, dancing, behavior in public places, traveling, house guests, appearance, and miscellaneous situations. Form A was used for the pretest and Form B for the final test.

The Guilford-Martin Personnel Inventory measures three personality traits which are essentials of good adjustment: objectivity, agreeableness, and co-operation. This test is interesting to the students and has reported reliability coefficients of .83 for objectivity, .90 for agreeableness, and .91 for co-operativeness.

The Bell Adjustment Inventory provides four measures of personal and social adjustment: home adjustment, health adjustment, social adjustment, and emotional adjustment. The reliability coefficients for the four measures are reported as .89, .80, .89, and .85, respectively. Since only one form of the Adjustment Inventory is available, and only one form of the Personnel Inventory, the same forms of these instruments were used for both the pretests and the final tests.

After the semester's program of work had been planned, the idea of the proposed study was presented to the students and their interest and co-operation were enlisted. The tests were then administered at three successive class meetings.

Near the end of the semester the students learned the results of the pretests. The scores were explained and interpreted. Some of the types and causes of unsatisfactory adjustments were considered, and students' questions relative to what can be done about maladjustments were discussed. The tests were then repeated.

RESULTS

The statistical significance of the differences between the group means for the various factors being studied were determined by computing the t value for each pretest and final-test comparison. After the mean difference had been derived, the standard error of the difference and the critical ratio (t) were computed. The critical ratio was referred to Fisher's tables to determine statistical significance. The number of students for whom tests were analyzed were 41 men and 60 women. Fisher's t values for these numbers are: men, $t_{.01} = 2.704$ and $t_{.05} = 2.021$; women, $t_{.01} = 2.660$ and $t_{.05} = 2.000$.

Table 1 gives t values for the achievements of men and women as shown by the mean differences between their pretest and final-test scores. A comparison of the critical ratios for the social usage tests with Fisher's t values for groups of 41 and 60 shows that the score gains are highly significant for both men and women. For instance, t values for the score increases on the social usage test were 5.21 for men and 10.84 for women. These are much higher than the tabular values 2.704 and 2.660 necessary for significance at the .01 level for the respective groups.

The t values for gains in men's home adjustment (2.35) and health adjustment (2.535) exceed those necessary

for significance at the .05 level but are less than those necessary for the .01 level. Although these gains are not highly significant, they are large enough to be judged real. The men's gains in social and emotional adjustment are highly significant, as shown by the ratios of 6.70 and 4.83, respectively. The critical ratios for all four types of adjustment in women exceed the highly significant point. Finally, all the *t* values for the personal traits—objectivity, agreeableness, and cooperativeness—are greater than are necessary for significance at the .01 level.

TABLE 1

MEAN DIFFERENCE, STANDARD ERROR, AND CRITICAL RATIO FOR SCORES ON PRETEST AND FINAL TESTS OF SOCIAL USAGE

SOCIAL FACTOR	MEAN DIFFERENCE BETWEEN SCORES ON PRETEST AND FINAL TEST		STANDARD ERROR OF DIFFERENCE		CRITICAL RATIO (*t*)	
	Men	Women	Men	Women	Men	Women
Social usage	16.56	19.40	3.18	1.79	5.21	10.84
Adjustment Inventory:						
Home	1.15	1.13	.49	.33	2.35	3.42
Health	1.39	1.75	.55	.32	2.53	5.47
Social	3.15	2.15	.47	.41	6.70	5.24
Emotional	2.27	2.25	.47	.33	4.83	6.82
Personnel Inventory:						
Objectivity	9.46	10.40	1.54	1.38	6.14	7.54
Agreeableness	8.07	4.75	1.30	.95	6.21	5.00
Co-operation	10.10	8.27	1.84	1.27	5.49	6.51

DISCUSSION OF FINDINGS

Several circumstances may have caused the differences in final-test scores to appear greater than they actually are. In the first place, since only 101 of the tests of the 140 students were used, sampling may have been selective. Students who were absent when any of the tests were given had no opportunity to make them up. Furthermore, all the tests for one section were given at the period set for final examinations. A large per cent of these were incomplete or carelessly done because students grew tired or were impatient to leave and because they knew their achievement would have no bearing on their marks for the semester. When the tests were analyzed, only the students whose tests were complete in every respect were used. This may have resulted in a sampling of more of the better students than a purely random sampling would yield.

A second circumstance which may have influenced the results of the adjustment and personnel inventories was that the same instrument was

used for both testings. A third factor may have been the discussion of pretest scores and suggestions for improvement of personal and social adjustment preceding the final test. Some of the students consciously tried to improve their scores. In so doing, they may have marked the inventories according to their judgment of the more desirable responses rather than according to their feelings.

The limitations of pencil-and-paper tests as a means of measuring improvement in personality and in adjustment are obvious. There is the student who knows the desired adjustment responses but does not habitually experience them. Given the opportunity, this student is more likely to mark the test items in such a way as to improve his score than to answer in terms of his real reactions. Regardless of their limitations, personality and adjustment tests are recognized as valuable means for discovering poorly adjusted individuals. The individual is often unacquainted with, or unaware of, the conditions or factors which cause maladjustment, and he is then unable to give a desired impression. Again, he may know the preferred answer but wish to face the situation objectively. Finally, he is likely to be unable to recognize the important items readily and quickly enough to achieve a material improvement on his score intentionally.

By and large, the results of the tests of students who are working for better adjustment may, at intervals, be expected to be influenced by increased knowledge; by improved ability to apply such knowledge to actual situations; and by an attitude showing interest in, or at least a willingness to improve, the adjustment scores. Hence, any factor which influences these achievements and attitudes tends to improve adjustments.

Concurrently with the development of a knowledge of the rules of social conduct, college men and women show improvement in certain personality traits as well as in personal and social adjustment. Specifically, these students show more objectivity, more agreeableness, and more cooperativeness. They also give evidence of better home, health, social, and emotional adjustment.

To what extent knowledge of social usage alone, without the development of social skills, is a factor in adjustment is not shown. Because such knowledge is essential to the development of social skills, it is necessarily important. It seems likely that social skills themselves, not measured by this study, are essential factors in the improvement of these personality traits and in the concomitant personal and social adjustment.

Further studies are needed to determine the importance of course content and class procedures in influencing student adjustment. For such studies effective use should be made of control groups and of sociometric evaluations.

DIAGNOSING COMMUNITY READING

RAY H. SIMPSON
University of Illinois

KENNETH L. CAMP
Horton Walkins High School, La Due, Missouri

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DETERMINING the kinds and the amounts of reading that are being done outside of school is one of the most difficult problems faced by teachers of reading. Both teachers of recreational reading and subject-matter teachers who want to train learners to continue reading in the subject fields are concerned with this problem.

It is unfortunate that almost all measurement attempts related to reading have considered only in-school reading. The assumption has been made that, if the child *can* read well when he leaves school, he *will* read often and well in later life. This assumption has seldom if ever been checked in most communities.

The approach discussed in this article is designed to suggest and illustrate a technique which high-school teachers or departments may find profitable to use.

A committee of teachers in a midwestern junior high school decided they needed (1) some clarification of their out-of-school reading goals, (2) some checks on the extent to which these goals are being achieved in the community, and (3) some indication of the degree to which the home situations are likely to facilitate the achievement of reading goals. With these objectives in mind, the committee, after considerable discussion, set up a list of fifteen objectives[1] upon which they could agree. They also listed forty-one questions to be asked of parents by means of a questionnaire.

The teachers then turned their attention to the matter of setting up a system wherein a fair representation might be secured from each of five schools. It was decided that two seventh-grade classes, one eighth-grade class, one ninth-grade class, and one eleventh-grade class would be used. The questionnaire was sent to 123 families and returned by 95 families. Illustrative goals and results for a few of the questions are discussed below.

Goal 1: Increased reading of nonfictional books.—The question from which the data for Item 1 in Table 1 were compiled read: "What was the

[1] Some items were suggested by Ray H. Simpson, "Reading: In-School Goals and Out-of-School Behavior," *School Review*, LVIII (March, 1950), 147–52.

number of nonfictional books received as Christmas gifts last year?" While this is only one of a number of evaluative questions related to this goal, the answers give some clue to the frequency with which such books are read.

Goal 2: Increased reading of drama.—The question concerned with this goal read: "How many plays has your family read during the past month?" If teachers of English improve in their teaching of drama in these school communities, the figures given in answer to this question should increase.

Goal 3: Larger membership in book clubs.—It is true that the desirability of increasing memberships in book clubs might be questioned by some teachers. Nevertheless, such membership is a tangible indication of interest in reading.

Goal 4: Increased use of magazines rating those things consumers buy or use.—The question, "Do you subscribe to any magazine report or bulletin which emphasizes how to tell the value of any given article and how to choose the best for your money?" was used to secure information about this goal. It is interesting to find that more families read materials of this type than read any of the other kinds of materials represented in these four goals.

Goal 5: Increased use of "acceptable" magazines.—The families were asked, "Please check the magazines listed below to which you subscribe." The frequencies of mention ranged from one for *Theatre Arts* and *Consumer Reports* to 39 for *Reader's Digest.* As was to be expected, the well-known, popular magazines were mentioned most often. *Reader's Digest* was followed in frequency of mention by "comic books" (of various titles) and *Better Homes and Gardens*, each with a frequency of 36. *Collier's* and *Life* were each checked 30 times.

When the committee of teachers met at the conclusion of the project,

TABLE 1

DATA FROM ILLUSTRATIVE QUESTIONS INCLUDED IN SURVEY OF COMMUNITY READING

TYPE OF DATA	GRADE VII		GRADE VIII (13 FAMILIES)	GRADE IX (23 FAMILIES)	GRADE XI (20 FAMILIES)
	School A (21 Families)	School B (18 Families)			
1. Average number per family of nonfictional books received as Christmas gifts in preceding year	0.6	1.1	0.3	0.6	1.2
2. Average number per family of plays read in preceding month	.5	.7	.3	.7	.7
3. Per cent of families in which any member belongs to a book club	9.5	5.6	23.1	13.0	.0
4. Per cent of families subscribing to bulletins telling how to choose best value for your money	19.0	38.9	30.8	30.4	10.0

they were somewhat surprised and pleased to find a close correlation between parent and pupil reaction to the questionnaire.

Parents returning the questionnaire were frank in commenting on the worthiness of the project. About half of the total questionnaires returned were found to contain more information from the parent than was asked for by the committee. Several parents stated that they allowed their children to read all types of books, magazines, and comics. The majority, however, stated that they sincerely tried to guide their children's choice of selections but that they had failed at times. One parent stated, "It's the duty of the school to teach my boy what and how he should read." It seems more reasonable to assume that this should be the duty of both home and school. However, this type of response did impress the committee because of the clear indication that teachers must consider the development of out-of-school reading habits a prime objective in all curriculums.

Pupil reaction to the questionnaire was somewhat more diversified than the parent response. All members of the committee recounted statements made at the times the questionnaire was handed out and was returned by the pupils. It was necessary to urge many students to return the completed questionnaire. Some teachers had more success in this endeavor than others. One teacher emphasized and explained thoroughly the purpose of the questionnaire to the pupils before sending the forms home. This teacher and class decided that they would study the returns, using the results as a measuring stick in planning their new literature unit. This teacher reported that the amount of zeal and zest which his students have since shown in planning new literature units has alone made the study well worth the time and effort.

SUMMARY

A brief picture has been given of how a group of teachers set up and initiated a check on out-of-school behavior goals in reading. Illustrative goals and items of evidence have been given. Such a procedure would seem to have these potential values: (1) It can help teachers and learners to clarify their goals. (2) It is one way of emphasizing goals in teaching and learning activities. (3) Results from such a survey, together with comparable results from subsequent surveys, can, if used with appropriate caution, give one basis for directing and measuring improvement in teaching and learning in a community.

SELECTED REFERENCES ON SECONDARY-SCHOOL INSTRUCTION

II. The Subject Fields

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THE SAME GROUPING of subject fields is being followed for the lists of references in the February and March numbers of the *School Review* that have been used in the cycles of lists that have been published for the past two decades. The concept of "instruction" is also the same and includes curriculum, methods of teaching and study and supervision, and measurement. In each subject field the list includes items published during a period of approximately twelve months since the preparation of the list appearing last year.

ENGLISH[1]

DORA V. SMITH
University of Minnesota

99. BRADWAY, BRUCE M. "High-School Students' T.V. Habits," *Advertising Age*, XXII (July 23, 1951), 47–58; (July 30, 1951), 39–40. Condensed in *Education Digest*, XVII (October, 1951), 10–12.

Surveys habits of high-school pupils in relation to television preferences, homework, length of ownership, critical attitudes, and parental control.

100. BURTON, DWIGHT L. "The Novel for the Adolescent," *English Journal*, XL (September, 1951), 363–69.

Evaluates recent fiction concerning problems of adolescence.

101. BUTTERWORTH, ROBERT F., and THOMPSON, GEORGE. "Factors Related to Age-Grade Trends and Sex Differences in Children's Preferences for Comic Books," *Pedagogical Seminary and Journal of Genetic Psychology*, LXXVIII (March, 1951), 71–96.

Studies the comic book preferences of 202 pupils from Grades VI–XII in three public schools of Syracuse, New York.

102. CARLSEN, GEORGE ROBERT. "The Dimensions of Literature," *English Journal*, XLI (April, 1952), 179–86.

Urges carefully distributed emphasis upon varied functions of teaching literature.

103. DE BOER, JOHN J. "Teaching of Communication," *Progressive Education*, XXIX (October, 1951), 24–26.

Reveals need to develop in today's classrooms improved interpersonal communication; reading for social insight; understanding of the role of language in human experience; standards of criticism of what pupils hear, view, and read; and pleasure in good reading.

104. DERLETH, AUGUST W. "Contemporary Science-Fiction," *English Journal*, XLI (January, 1952), 1–8.

[1] See also Item 538 (Lorge and Kruglov) in the list of selected references appearing in the May, 1952, issue of the *School Review;* also Items 463 (*Areas of Research Interest in the Language Arts*), 480 (*Growth in Language from Kindergarten through High School*), 483 (Gunn), 487 (Knower), 490 (Lyness), and 504 (Witty) in the list appearing in the October, 1952, issue of the *Elementary School Journal*.

Gives a helpful overview of recent science fiction and its writers.

105. DUNN, ANITA E., and OTHERS. *Fare for the Reluctant Reader*. Albany, New York: Capital Area School Development Association, 1952. Pp. 168+x.

Lists books, magazines, and audio-visual aids for slow learners in Grades VII–X.

106. *The English Language Arts*. Prepared by the Commission on the English Curriculum, National Council of Teachers of English, N.C.T.E. Curriculum Series, Vol. I. New York: Appleton-Century-Crofts, Inc., 1952. Pp. xxiv+502.

Presents a five-year study of aims, methods, procedures in curriculum making, and issues concerning the teaching of reading, writing, speaking, and listening.

107. GRIFFIN, WILLIAM J., and VENABLE, TOM. "Examination of Examinations: Standardized Tests of English Grammar and Usage," *Educational Forum*, XVI (January, 1952), 211–18.

Calls in question commonly used tests of usage as to validity of items, techniques of measurement, and interpretation of results.

108. HAUGH, OSCAR M. "Representative Research in the Communication Skills," *Education*, LXXII (March, 1952), 470–80.

Reviews research in the skills of listening, grammar, composition, and speech, and in the interrelationships among them.

109. HAYAKAWA, S. I. "Linguistic Science and the Teaching of English," *Baltimore Bulletin of Education*, XXIX (January–February, 1952), 9–22.

Makes a dynamic plea for natural, motivated expression, observation of language in varied situations, and separation of *saying something* from editorial correction.

110. HEILMAN, ARTHUR. "Critical Listening and the Educational Process," *Education*, LXXII (March, 1952), 481–87.

Presents evidence of uncritical listening based on measures prepared for college Freshmen.

111. JOLIET TOWNSHIP HIGH SCHOOL. "Developing Oral Communication Skills," *English Journal*, XLI (January, 1952), 24–30.

Summarizes a committee report on oral communication.

112. KAULFERS, WALTER V. "The Language Arts in Modern Dress," *California Journal of Secondary Education*, XXVI (October, 1951), 330–38.

Urges, with specific examples, newer methods of teaching grammar and sentence structure in connection with expression.

113. LEVENSON, WILLIAM B., and STASHEFF, EDWARD. *Teaching through Radio and Television*. New York: Rinehart & Co., Inc., 1952 (revised). Pp. 560.

Gives practical helps for preparation, selection, presentation, and evaluation of school broadcasts and telecasts in elementary and secondary schools.

114. LEWIS, PHILIP. "Television Settles Down," *Clearing House*, XXVI (November, 1951), 168–72.

Furnishes evidence of reduction of hours spent in viewing, less interference with homework, and greater maturity in program selection with age of viewer and years of ownership of television.

115. MCCULLOUGH, CONSTANCE. "Word Analysis in the High School Program," *English Journal*, XLI (January, 1952), 15–23.

Presents specific help for approaching unfamiliar words.

116. MILLER, HELEN R. "Unified Studies: An Escape from Educational Feudalism," *Clearing House*, XXVI (September, 1951), 20–24.

Describes a revolt from conventional teaching which improves learning in English.

117. NEWMAN, HAROLD. "Making Composition Writing Meaningful," *High Points in the Work of the High Schools of New York City*, XXXIV (February, 1952), 46–54.

Urges emphasis upon self-discipline in writing and guidance by the teacher in determining ends and means.

118. NEW YORK CITY TEACHERS OF SLOW LEARNERS. "The XG Program," *English Journal*, XL (December, 1951), 553–59.

Presents a composite picture of what four teachers of English in New York City are doing for slow learners.

119. NICHOLS, RALPH G. "Listening Instruction in the Secondary School," *Bulletin of the National Association of Secondary-School Principals*, XXXVI (May, 1952), 158–74.

Summarizes research in listening and methods of increasing competence in it.

120. NORTH CENTRAL ASSOCIATION OF SECONDARY SCHOOLS AND COLLEGES, CONTEST COMMITTEE. "A Program of Speech Education," *Quarterly Journal of Speech*, XXXVII (October, 1951), 347–58.

Proposes elements of speech important for all pupils whether in integrated courses, in extra-curriculum activities, or in specialized speech programs.

121. POLEY, IRVIN C. "More Chances for Growth—the Value of a Malvern Festival," *English Journal*, XL (October, 1951), 433–36.

Presents a program of dramatic art involving many students in the Germantown Friends high school.

122. REEVE, FREDERIC E. "Toward a Philosophy of Communication," *Education*, LXXII (March, 1952), 445–55.

Defines communication and methods for interrelating skills of speech, writing, reading, and listening.

123. ROODY, SARAH I. "A Bridge for the Poets," *English Journal*, XL (November, 1951), 492–98.

Interrelates poetic technique and poetic effect with what poets have to say to adolescents.

124. ROODY, SARAH I. "Effect of Radio, Television, and Motion Pictures on the Development of Maturity," *English Journal*, XLI (May, 1952), 245–50.

Offers suggestions for developing maturity through, and in the use of, mass modes of communication.

125. RYAN, MARGARET. "Achieving Unity with Diversity," *English Journal*, XL (December, 1951), 547–52.

Reveals a technique for using class, group, and individual reading within the same unit of instruction.

126. SHEPHERD, EDITH E. "Building a Background for Understanding Our Language," *English Journal*, XL (November, 1951), 499–505.

Presents a helpful approach to the development and contemporary use of English which will appeal to older pupils.

127. SHERIDAN, MARION C. "Teaching a Novel," *English Journal*, XLI (January, 1952), 8–14.

Gives inspiring suggestions for a common approach to *The Return of the Native* by a class of intelligent readers.

128. SINGER, HENRY A. "Human Relations and Mass Communications: A Human Relations Motion Picture Training Series," *Journal of Educational Sociology*, XXV (September, 1951), 50–63.

Describes with concrete examples the use of excerpts from literary and documentary films to demonstrate the needs of youth.

129. SMITH, ROSEMARY A. "Effective Preparation for College English," *School Review*, LX (February, 1952), 90–93.

Presents evidence concerning the relative value of usage drills and practice in writing for success in college English.

130. STRANG, RUTH; GILBERT, CHRISTINE B.; and SCOGGIN, MARGARET. *Gateways to Readable Books*. New York: H. W. Wilson Co., 1952 (revised). Pp. 148.

Combines results of research into books suitable for reluctant readers.

131. THOMAS, CLEVELAND A. "Recent Articles on Audio-visual Aids in Secondary-School English," *English Journal*, XLI (June, 1952), 313–17.

Compiles helps for the use of audio-visual aids, including classroom devices originated by the teacher.

132. WALL, W. D., and SIMSON, W. A. "The Responses of Adolescent Groups to Certain Films," *British Journal of Educational Psychology*, XXI (June, 1951, Part II), 81–88.

Presents evidence of the stimulation of fantasy, experience of shock, and identification in the reactions of teen-age boys to twelve films of varied character.

133. WILLARD, CHARLES B. "The Poets of Controversy for the High-School Student," *English Journal*, XL (November, 1951), 508–14.

Shows how such writers as MacLeish, Auden, and Pound may be successfully taught in high school.

THE SOCIAL STUDIES[2]

ROBERT E. KEOHANE
Shimer College, Mount Carroll, Illinois

Regular departments in periodicals, such as "Sight and Sound in Social Studies," have not been included in this list. Similarly omitted in order to save space are most of the items which were reviewed in "Educational News and Editorial Comment: Education for Citizenship" in this journal for November, 1952.

134. ALLEN, JACK (editor). *The Teacher of the Social Studies*. Twenty-third Yearbook of the National Council for the Social Studies, 1952. Washington: National Council for the Social Studies, 1952. Pp. viii+248.

Leaders in the field of social-studies education discuss the problems of the pre-service education of social-studies teachers, their problems in the classroom and the community, and their professional growth.

135. ASSOCIATION OF TEACHERS OF SOCIAL STUDIES IN THE CITY OF NEW YORK. *Handbook for Social Studies Teaching*. New York: Republic Book Co., 1951. Pp. viii+240.

This "methods" book includes, among others, chapters on the core curriculum and adaptation to both the slow learner and the superior student.

136. AYER, FREDERIC L., and CORMAN, BERNARD C. "Citizenship Concepts Are Developed by Laboratory Practices," *Social Education*, XVI (May, 1952), 215–16.

Shows that firsthand experience with governmental processes, properly used, develops in high-school Seniors more adequate conceptions of the good citizen.

137. BINING, ARTHUR C., and BINING, DAVID H. *Teaching the Social Studies in Secondary Schools*. New York: McGraw-Hill Book Co., Inc., 1952 (third edition). Pp. x+350.

A thorough revision of a standard work.

138. BLAKEMORE, JAMES E. (editor). *Focus on Foreign Policy*. Annual Proceedings of the Middle States Council for the Social Studies, 1950–1951, Vol. XLVIII. Philadelphia: The Council (% James E. Blakemore, Great Neck High School, Great Neck, New York), 1952. Pp. 72.

Stresses the work of the Department of State and emphasizes teaching about Asia.

139. BOND, FLOYD A., and ROEHR, GEORGE L. "The Rediscovery of Economics," *California Journal of Secondary Education*, XXVII (May, 1952), 295–300.

Reports recommendations of the Southern California Conference on Economic Education for giving some economic education to all upper-secondary-school students.

[2] See also Item 538 (Aldrich) in the list of selected references appearing in the October, 1952, issue of the *Elementary School Journal*.

140. BRICKMAN, WILLIAM W. "Social Studies," *School and Society*, LXXV (February 23, 1952), 116–24.

A first-rate review of the major books appearing in 1948–51.

141. BROWN, RALPH A. "Locating Resources for the Teaching of Local History," *School Review*, LX (May, 1952), 292–97.

Points out, with examples, ways of finding and of using primary sources in the teaching of local history.

142. BROWN, RALPH A., and BROWN, MARIAN R. "The Social Studies Teacher and American Biography," *Social Studies*, XLIII (January, 1952), 10–20.

Discusses values of biographical reading by history students and reviews recent biographies related to United States history.

143. BYE, EDGAR C. *How To Conduct a Field Trip*. How To Do It Series No. 12. Washington: National Council for the Social Studies, 1952. Pp. 8.

An experienced director of trips summarizes useful suggestions on preparation for, and conduct of, field trips.

144. CHAUSOW, HYMEN M. "The G.E.D. and the Social Studies," *Junior College Journal*, XXII (April, 1952), 450–56.

Reports on the use of a G.E.D. test as a social-studies pretest and on the results of providing a special class for, and of giving individual attention to, students for whom failure seemed probable.

145. COLLINGS, MILLER R. *How To Utilize Community Resources*. How To Do It Series No. 13. Washington: National Council for the Social Studies, 1952. Pp. 8.

Summarizes some of the more obvious aspects of the topic.

146. CUNNINGHAM, MARY E., and BROWN, RALPH A. "The Social Studies and Local History," *Social Studies*, XLIII (March, 1952), 104–13.

Reviews the highlights of the history of local-history-teaching in the United States, discusses its values, and gives a relevant bibliography.

147. D'AMBROSIO, LOUIS M. "Adjusting the Social Studies to the Non-academically Inclined Child," *High Points in the Work of the High Schools of New York City*, XXXIV (January, 1952), 13–18.

Recommends emphasis upon current materials, the open-textbook method, and motor abilities.

148. ECKERT, GEORG (editor). *Internationales Jahrbuch für Geschichtsunterricht*. Bd. 1. Brumswick, Germany: Verlag Albert Limbach, 1951. Pp. 340.

Contains informative articles on the history curriculum in Austria and France and summarizes the results of French-German, English-German, and UNESCO conferences on the revision of history textbooks.

149. "Education for Citizenship," *Phi Delta Kappan*, XXXIII (December, 1951), 165–67.

Reports on current experiments in, and studies of, citizenship education, notably by the schools co-operating with Teachers College, Columbia University, and with Kansas State College, and at Cambridge (Massachusetts), Detroit, and Syracuse. The issue also summarizes the 1951 yearbook (published in November, 1952) of the National Council for the Social Studies on citizenship education, and offers schools a useful inventory for citizenship education.

150. ENGLE, T. L. "A National Survey of the Teaching of Psychology in High Schools," *School Review*, LIX (November, 1951), 467–71.

Psychology is taught as an elective, one-semester subject in 8.4 per cent of high schools.

151. ERICKSON, EDITH F. "The Study of a Problem," *Clearing House*, XXVI (October, 1951), 82–86.

Describes the teaching of a unit in "Problems of Democracy."

152. GILMORE, ALLEN A. "The Methods and Concepts of History," *Journal of General Education*, VI (January, 1952), 113–21.

A professor of history in a technical college concentrates upon teaching Freshmen how to use a "disciplined set of methods" of historical study and how to think in terms of a pattern of historical concepts.

153. GROSS, RICHARD E. "What's Wrong with American History?" *Social Education*, XVI (April, 1952), 157–61.

Reports the findings of a study of United States history-teaching in California. Ill-prepared or uninterested teachers, the teaching of discrete facts, and poor integration rank high as causes of dissatisfaction with the course.

154. HELFANT, KENNETH. "The Teaching of Psychology in High Schools: A Review of the Literature," *School Review*, LX (November, 1952), 467–73.

Reviews arguments for and against such courses, problems of securing teachers and teaching materials, and current issues in organization of psychological content in the high-school curriculum.

155. HENRY, GEORGE. "Developing Concepts at the High School Level," *Reading Instruction in the Total School Program*, pp. 29–34. Proceedings of the 33rd Annual Conference Held at the University of Delaware, March 2, 3, 1951, Vol. II. Compiled by Russell G. Stauffer. Newark, Delaware: Reading Clinic, School of Education, University of Delaware, 1951.

Suggests, with special reference to social-studies terms, how to, and how *not* to, help students put meaning into the words which they use and how to apply the concepts once they are meaningful.

156. HOLTON, SAMUEL M. (editor). "Providing for the Civic and Organizational Needs of Adolescents," *High School Journal*, XXXV (February, 1952), 130–60.

Discusses social-studies teaching skills, the use of the "Laboratory-Practice" approach in citizenship education, and guidance functions of the social studies.

157. JOHNSON, B. LAMAR. "General Education for Citizenship," *Junior College Journal*, XXIII (October, 1952), 91–97.

Defines general education and describes some of the leading California programs in citizenship education.

158. JOHNSON, EARL S. "Social Class as Fact and Perspective in the Social Studies," *School Review*, LX (April, 1952), 203–12.

Develops the proposition that "the pre-eminent obligation of the social studies is to facilitate the student's socialization and acquaint him with its nature as a social process, to the end that he may . . . come to know what manner of man he is."

159. JOINT COUNCIL ON ECONOMIC EDUCATION. *Summary Report of the Joint Council on Economic Education, 1948–1951*. New York: The Council (444 Madison Avenue), [n.d.]. Pp. 58.

Reviews briefly the work of the Joint Council in getting co-operation from interested groups and in developing workshops and materials to promote economic literacy. Appendix A reviews field developments by states.

160. JONES, O. GARFIELD. "Is Civic Education a Fraud?" *National Municipal Review*, XLI (May, 1952), 234–37.

Concludes that civic education is not a fraud, on the basis of Jones's notable course at Toledo and of the results of a survey which indicated that, of Toledo's 1930–38 graduates in Lucas County, 92 per cent had voted in the state election of 1950.

161. KEMMERER, DONALD L. "Let's Use More Economics in Teaching Economic History," *Social Studies*, XLIII (January, 1952), 3–10.

An economist specifies analytical and interpretive tools which he finds neglected in economic-history teaching.

162. KENWORTHY, LEONARD S. *World Horizons for Teachers*. Teachers College Studies in Education. New York: Bureau of Publications, Teachers College, Columbia University, 1952. Pp. xiv+142.

Describes practices in "education for world-mindedness."

163. KEOHANE, ROBERT E. "The Source Method in Nebraska, 1891–1900: An Early Experiment in the In-service Education of Teachers," *Social Studies*, XLIII (February and March, 1952), 51–58, 113–17.

Traces the attempt, through teaching and publication, of Professor Fred M. Fling and his associates to encourage the more intelligent use of primary sources in history-teaching on the secondary level.

164. KEOHANE, ROBERT E. "Education for Citizenship," *School Review*, LX (November, 1952), 445–57.

Reviews the political, economic, current affairs, international relations, and comparative education aspects of the topic.

165. MCGLYNN, EDNA M. "Civics and History at the Registry of Deeds," *Social Education*, XV (November, 1951), 333–35.

Describes the successful use of county records in a teachers' college history course.

166. MEIKLEJOHN, DONALD. "Social Policy as a Focus for Social Science," *Journal of General Education*, VI (October, 1951), 26–34.

Describes the content, organization, and teaching procedures of "Social Sciences 3" in the College of the University of Chicago.

167. MILLER, JAMES W. "Revitalizing the Teaching of Government," *Educational Forum*, XVI (November, 1951), 103–7.

Describes "Senior Government Day" in Michigan counties, in which high-school Seniors, social-studies teachers, school administrators, local and state public officials, and political scientists co-operate.

168. MOFFATT, MAURICE P., and RICH, STEPHEN G. "What Documents Have Educational Value," *Journal of Educational Sociology*, XXV (September, 1951), 23–33.

Suggests appropriate educational uses for a wide range of primary sources.

169. NAFTALIN, ARTHUR. "Social Science in General Education," *General Education*, pp. 111–35. Fifty-first Yearbook of the National Society for the Study of Education, Part I. Chicago: Distributed by the University of Chicago Press, 1952.

Reviews basic issues and present state of the social studies in general education at the college level and warns against the dangers of "skepticism, presentism, scientism, and anti-intellectualism."

170. PENROSE, WILLIAM O. *Freedom Is Ourselves: Legal Rights and Duties of the Citizen as a Basis for Civic Education*. University of Delaware Monograph Series, No. 2. Newark, Delaware: University of Delaware Press, 1952. Pp. xviii+256.

Defines citizenship basically in political terms, analyzes the rights and duties of citizens and of aliens in the United States, points out the inadequacies for citizenship education of the treatment by a limited sample of civics textbooks, and makes some worth-while suggestions for improving education for citizenship.

171. PETERS, FRANK R. "An Outsider Looks at a Liberal Program in Education: An Appraisal of the Course in the College of the University of Chicago," *Journal of Higher Education*, XXIII (March, 1952), 131–36, 170.

Describes "Social Sciences 1" at Chicago and makes generally sound suggestions for its improvement, particularly of the comprehensive examination.

172. REDFIELD, ROBERT. "Social Science Research in General Education," *Journal of General Education*, VI (January, 1952), 81–91.

Analyzes the nature of social-science method in the context of a college "culture-and-personality" course.

173. SAMFORD, CLARENCE D., and COTTLE, EUGENE. *Social Studies in the Secondary School*. New York: McGraw-Hill Book Co., Inc., 1952. Pp. x+376.

A new "methods" book which eschews philosophy and history of education and seeks to be practical and to promote education for life-adjustment.

174. SAWYER, MICHAEL O., and BROWN, STUART GERRY. "Problems in Democratic Citizenship," *Journal of Higher Education*, XXIII (February, 1952), 84–88, 116.

Describes an "inquiry into depth of citizenship" for college Freshmen at Syracuse University, which uses a "case approach" and readings chosen from classic and contemporary social and political thinkers. The course concentrates upon the values, ideals, and ways of democracy, political and non-political.

175. SMITH, JOE. *Student Councils for Our Times*. New York: Bureau of Publications, Teachers College, Columbia University, 1951. Pp. viii+110.

Describes the status of student councils in high schools as depicted in recent literature and develops the author's ideas of what councils ought to become and how they can best contribute to citizenship education.

176. SPIESKE, ALICE W. "Bibliography of Textbooks in the Social Studies, 1950–51," *Social Education*, XV (December, 1951), 385–86.

Third annual supplement to the *Bibliography of Textbooks for the Social Studies* (1949).

177. STRONG, C. F. (compiler). *Teaching for International Understanding: An Examination of Methods and Materials*. London: Her Majesty's Stationery Office, 1952.

A statement prepared for the British National Commission for UNESCO and published for the Ministry of Education.

178. TAYLOR, GEORGE R. "Meeting the Social Studies Where They Are: The Introductory Course in Social Science at Amherst College," *Journal of Higher Education*, XXIII (February, 1952), 68–74.

Describes a "problems-approach" course for college Sophomores in American civilization, which combines lectures, readings, analytical papers, and seminar-type discussions.

179. VINCENT, WILLIAM S. "The Developing Program of the Citizenship Education Project," *Teachers College Record*, LIII (March, 1952), 307–11.

Describes the procedures of one of the leading ventures in co-operative civic education.

180. WEINBERG, MEYER. "Social Science Discussion and the Tape Recorder," *Junior College Journal*, XXII (October, 1951), 68–71.

Tells how to use tape-recorded interviews to provide stimulating material for discussion groups in a junior-college course in social science.

181. WEINGAST, DAVID E. "Labor-Management Relations Number," *Education*, LXXII (April, 1952), 511–76.

Describes several learning projects on this topic, and contains a useful section, "Teaching the Teachers," with suggestions for content and materials.

182. WRONSKI, STANLEY P. *How To Locate Useful Government Publications*. How To Do It Series No. 11. Washington: National Council for the Social Studies, 1952. Pp. 8.

Gives the teacher help in locating such material and some good suggestions for its use.

183. ZINOVIEV, M. A. *Soviet Methods of Teaching History*. Translated by Alexis

Musin-Pushkin. Ann Arbor, Michigan: J. W. Edwards Co. for the American Council of Learned Societies, 1952. Pp. vi+164.

Makes abundantly clear how important the Soviet regime regards the teaching of what passes for history in the U.S.S.R. and how to do it so as "to imbue their pupils with ardent love for their native land and to foster Soviet patriotism within them."

GEOGRAPHY

EDNA E. EISEN

Kent State University

184. BECKER, HENRY F. "Some Implications of Resource-Use Education for Geographers," *Journal of Geography*, LI (March, 1952), 103–11.

Explains (1) the basic concepts of resource-use education and (2) the opportunities such programs provide for geography teachers to contribute their training, skill, and experience in meeting community problems.

185. BECKMAN, WALTER H. "Trees to Lumber: A Project," *Journal of Geography*, LI (March, 1952), 112–18.

Describes procedures used in collecting data, preparing exhibits, and presenting a program by seventh-grade pupils in a six-week study of trees and lumber.

186. CRESSEY, GEORGE B. "The Land of the Five Seas," *Journal of Geography*, LI (September, 1952), 221–30.

Presents material of the concrete and current type needed in helping students to appreciate the significance of specific areas in their world-relationships.

187. DIETTRICH, SIGISMOND DE RUEDESHEIM. "Some Geographic Aspects of the Russian Expansion," *Education*, LXXII (February, 1952), 371–80.

Presents basic information useful in helping students understand factors associated in giving a specific area its individual character.

188. EDEL, WILBUR. "Geography and World Affairs," *Journal of Geography*, LI (September, 1952), 248–53.

Describes an experiment to discover what knowledge of Europe the average college student relies upon in his discussion of international affairs.

189. FINE, BENJAMIN. "U.S. College Students Flunk in Knowledge of Geography," *Journal of Geography*, L (November, 1951), 334–41.

Reprinted from the *New York Times*, June 11, 1951. Presents results of a geography survey among college students, including the test questions and answers and the per cents of students giving right answers.

190. FIRMAN, DAVID. "Geography in Higher Education," *Journal of Higher Education*, XXIII (March, 1952), 137–44.

Summarizes the geography-course offerings in colleges throughout the country.

191. FOSTER, ALICE (editor). *Perspective in the Study of Geography*. A Collection of Papers Presented at the Geography Alumni Conference. Chicago: Department of Geography, University of Chicago, 1951. Pp. iv+42.

Edith P. Parker, in a paper entitled "Conclusions concerning Orientation Courses," reveals experiments with various units and procedures which result in an effective program. Allan K. Philbrick, in a paper on "An Organizing Theme for Geography," illustrates the application of the core of ideas involved in geography by considering commercial sunflower production in the occupancy pattern of the Mennonites of southern Manitoba. Robert S. Platt, in a paper entitled "Introductory Field Study," explains the need for, and nature of, field study as an integral part of geographic orientation. Robert A. Heil, in a paper on "Some Aspects of Laboratory and Library Work," shows ways in which the two activities can and should make valuable contributions toward attaining some of the goals of an orientation course in geography.

192. GEIS, GILBERT. "Geography in Norwegian Schools," *Education*, LXXII (February, 1952), 434–39.

Presents the results of a study of geography in Norwegian schools based on six questions: (1) who (2) communicates what (3) to whom (4) through what channels (5) for what effect, and (6) with what effect?

193. JAMES, LINNIE B. "The Daily Geographic News: A Pupil Newspaper," *Journal of Geography*, LI (April, 1952), 151–56.

Describes a daily newspaper issued by an eighth-grade geography class.

194. JAMES, LINNIE B. "A Mystery Country—A Lesson in the Readings of Graphs and Statistics," *Journal of Geography*, LI (September, 1952), 231–35.

Describes how eighth-grade pupils were guided in their use of maps, graphs, and statistics to discover outstanding characteristics of a country (New Zealand).

195. JUNGE, RUBY M. "Geography in the High Schools of Michigan," *Journal of Geography*, L (November, 1951), 329–34.

Reports on status of geography as revealed by data secured from questionnaires sent to all high schools in Michigan on enrolment in geography classes for Grades IX through XII, courses taught, and length of courses.

196. KOSTANICK, HUEY LOUIS. "The Significance of Geopolitical Changes in Eastern Europe," *Education*, LXXII (February, 1952), 381–87.

Presents geographic information which may be useful in directing students in their studies of eastern Europe.

197. OWEN, JOHN E. "A Newer View of Geography," *Education*, LXXII (February, 1952), 431–33.

Shows the expansive curriculum possibilities that stem from recognition of the role of geographic factors in making man's society what it is.

198. PHILBRICK, ALAN K., and MAYER, HAROLD M. "A Technique for Visual Examination of Associations of Areal Patterns," *Journal of Geography*, L (December, 1951), 367–73.

Describes a technique of preparing slides which provides an effective approach to the graphic combination on a single map of multiple patterns in an areal association.

199. PHILLIPS, MARY VIOLA. "Pennsylvania's Geography Course of Study—Grades VII to XII," *Journal of Geography*, L (November, 1951), 323–29.

Explains the philosophy and plan by which a state geography committee developed a course of study directed to meet the needs of high-school pupils.

200. POUNDS, NORMAN J. G. "The Political Geography of the Straits of Gibraltar," *Journal of Geography*, LI (April, 1952), 165–70.

Presents material on the distinctive characteristics of the divisions of a relatively small area to help students make the proper political associations.

201. ROSTLUND, ERHARD. "The Persistent Planetary-Wind Diagram," *Journal of Geography*, LI (October, 1952), 285–92.

Presents objections to the use of certain well-known diagrams commonly used in introductory geography courses and recommends a procedure that will be not only stimulating to the students but sound.

202. VISHER, STEPHEN S., and VISHER, HALENE HATCHER. "Conservation, an International Problem," *Education*, LXXII (February, 1952), 417–22.

Discusses what recent international conferences have accomplished in their approaches to solutions of world-problems concerned with natural resources.

203. VOURAS, PAUL P. "Location of Schools—A Problem in Educational Geography," *Journal of Geography*, LI (March, 1952), 121–25.

Gives an example of a method employed in the selection of a school site, in which high-

school pupils could participate and thereby benefit themselves and their community.

204. WARMAN, H. J. "Three R's Are Not Enough," *Progressive Education*, XXIX (April, 1952), 193–97.

Presents case histories which show that three R's were not enough to produce educated citizens and lists twenty-three practical questions which geography teachers can use as guides to build "understanding, loyalty, and pride in the community."

205. WILLIAMS, KENNETH J. "A Survey of the Knowledge of Incoming Students in College Geography," *Journal of Geography*, LI (April, 1952), 157–62.

Presents implications gained from results of a study conducted to determine what incoming students in college know of the basic role played by a knowledge of place geography of the United States.

206. WILSON, MARIETTA COPPOCK. "What Shall We Teach in Junior High School Geography?" *Journal of Geography*, LI (February, 1952), 55–64.

Reviews an investigation of courses of study in geography at the junior high school level and presents conclusions based on a careful analysis of the data.

SCIENCE

WILBUR L. BEAUCHAMP
University of Chicago

207. ABRAHAMS, HAROLD J. "Preparing High School Students for the Atomic Era," *Science Education*, XXXV (December, 1951), 266–68.

Presents an outline of a course on atomic science at the secondary-school level.

208. ABRAMSON, BERNARD. "A Comparison of Two Methods of Teaching Mechanics in High School," *Science Education*, XXXVI (March, 1952), 96–106.

Compares the traditional method of teaching mechanics and the use of graphic representations, such as pictures, photographs, cartoons, charts, or diagrams, as the sole source of instructional materials.

209. AUDIO-VISUAL COMMITTEE, CHICAGO PUBLIC SCHOOLS. "Material Aids Information," *American Biology Teacher*, XIV (February, 1952), 32–37.

A listing of sources of free films in the field of biology.

210. BEIDLEMAN, RICHARD G. "The Field Trip, a Technique in Natural Science Teaching," *School Science and Mathematics*, LII (February, 1952), 105–18.

Discusses purposes of field trips and methods of procedure and gives a good bibliography.

211. BLANC, SAM S. "Science Interests of Junior High School Pupils," *School Science and Mathematics*, LI (December, 1951), 745–52.

Reports the results of an investigation to determine interests in various aspects of the biological and physical sciences.

212. BLANC, SAM S. "Review of the General Goals in Science Teaching," *Science Education*, XXXVI (February, 1952), 47–52.

Summarizes recommendations made by national committees, science-education books, courses of study, and current literature.

213. BLANC, SAM S. "Instructional Materials for the Physical Sciences," *Science Teacher*, XIX (March, 1952), 63–66.

Lists available films dealing with electricity, magnetism, hydraulics, and mechanics and other types of visual materials useful in these areas.

214. BURNETT, R. WILL. "Combating Prejudice through Science Teaching." Washington: National Science Teachers Association, 1952. Pp. 32.

Discusses the problem of intergroup relations and gives suggestions for utilizing science classes to bring about a better understanding of this problem.

215. CROMBIE, CHARLES W. "Selecting Science Textbooks," *Science Education*, XXXV (December, 1951), 276–78.

Suggests criteria for evaluation of textbooks and a score card based on these criteria.

216. DECK, RAY F. "Vocabulary Development To Improve Reading and Achievement in Science," *American Biology Teacher*, XIV (January, 1952), 13–15.

Gives suggestions for discovering the words or terms which may be new or difficult and for arranging learning activities to develop an understanding of them.

217. FRANZEN, CARL G. F. "The Place of the Laboratory in the Teaching of Science," *School Science and Mathematics*, LI (December, 1951), 708–13.

Criticizes the exclusive use of the deductive method in the laboratory and suggests ways of securing pupil participation in raising and solving problems.

218. GRANT, MARTIN L. "How the Teacher's Literature Files Can Serve the Students in Laboratory and Classroom Work," *American Biology Teacher*, XIV (April, 1952), 83–90.

Suggests types of materials for the teacher to collect and ways of storing, cataloguing, and using them.

219. HARVEY, HELEN W. "An Experimental Study of the Effect of Field Trips upon the Development of Scientific Attitudes in a Ninth Grade General Science Class," *Science Education*, XXXV (December, 1951), 242–48.

Tells how to conduct field trips in which the objective is the development of a more scientific attitude. Presents results comparing two classes, one taking field trips and one experiencing the usual classroom procedures.

220. KRASNICAN, MILAN J. "The Need for Science Classroom Procedures in Thinking," *Science Education*, XXXVI (March, 1952), 123–25.

Presents an analysis of attitudes and abilities involved in scientific thinking and some suggestions for procedures focused upon the development of these abilities and attitudes.

221. LICHTENWALTER, M. C. "How To Succeed in the Study of Biology," *American Biology Teacher*, XIII (December, 1951), 180–82.

Presents a list of suggestions to be given to pupils in beginning biology.

222. MALLINSON, GEORGE G. "Some Implications for Using Films in the Teaching of Biology," *American Biology Teacher*, XIV (February, 1952), 37–40.

A review of recent studies in the field of biology related to effective uses of films.

223. MALLINSON, GEORGE G. "Science Education and World Understanding," *School Science and Mathematics*, LII (October, 1952), 531–38.

Shows how courses in biology, geography, and the physical sciences can be used to obtain a better understanding of world relationship.

224. MARTIN, W. EDGAR. "The Present Status of Instruction in General Biology," *American Biology Teacher*, XIII (November, 1951), 149–57.

Shows the trends in enrolment, areas stressed, nature of laboratory work, and use of supplementary aids, as revealed by figures collected by the Office of Education.

225. MILLER, MILES MAX, and DRESDEN, KATHERINE. "Kearny High Studies Evaporation and Humidity," *School Science and Mathematics*, LII (October, 1952), 549–55.

Describes a method of teaching science in which the work is planned and carried on by groups of students.

226. PANUSH, LOUIS. "How To Use Projects in Teaching High School Chemistry,"

School Science and Mathematics, LII (April, 1952), 291–99.

Presents examples of term projects worked out by students.

227. PELLA, MILTON O. "The Use of Laboratory Activities in Teaching General Science," *School Science and Mathematics*, LII (February, 1952), 119–25.

Lists the functions of the laboratory and illustrates each function with several examples.

228. READ, JOHN G. "Construction and Evaluation of a New General Science Test," *Science Education*, XXXV (December, 1951), 262–66.

Describes the construction of a general-science test based upon analysis of textbooks.

229. SMITH, HERBERT F. A. "A Determination of Principles Desirable for a Course of General Science at the Junior High School Level," *Science Education*, XXXV (December, 1951), 279–84; XXXVI (February, 1952), 32–47.

Presents a list of 118 science principles arranged in order of desirability and a list of experiments judged to be desirable for junior high school science.

230. STAFFORD, WAYNE A. "The Textbook versus Supplemental Material in Teaching Biology," *School Science and Mathematics*, LII (December, 1952), 737–42.

Presents data of an investigation in which the use of a basic textbook as a foundation for instruction is compared with use of supplemental material based on the same course outline.

231. VANCE, B. BERNARR. "Experimental and Laboratory Techniques," *American Biology Teacher*, XIV (March, 1952), 54–61.

Discusses the value of the laboratory in attaining the goals of science instruction in biology.

232. WASHTON, NATHAN S. "A Syllabus in Biology for General Education: II," *Science Education*, XXXVI (October, 1952), 227–37.

Describes a method of determining the importance of biological principles and gives a list of principles based on this method.

233. ZIM, HERBERT S. "Where Are We Now and Where Are We Going in Science Education?" *Science Teacher*, XIX (September, 1952), 161–67.

An unusually stimulating article which should be read by every science teacher.

MATHEMATICS

GEORGE E. HAWKINS
Lyons Township High School and Junior College
La Grange, Illinois

234. BECKMANN, MILTON W. "How Mathematically Literate Is the Typical Ninth Grader after Having Completed either General Mathematics or Algebra?" *School Science and Mathematics*, LII (June, 1952), 449–55.

Summarizes a study of the gains made and level of achievement attained in the twenty-nine competencies listed in the Second Report of the Post-War Commission by ninth-grade Nebraska pupils who studied general mathematics and by others who studied algebra.

235. BETZ, WILLIAM. "The Place of Mathematics in Human Affairs, and Related Curriculum Problems," *Mathematics Teacher*, XLV (February, 1952), 81–88.

Discusses criteria that have been used in selecting curriculum content and makes suggestions regarding content for modern courses.

236. CAMBRERA, EMANUEL S., and MEDICI, HECTOR J. "The Teaching of Mathematics in the Argentine Republic," *Mathematics Teacher*, XLIV (December, 1951), 529–36.

Contrasts teaching methods used in Argentina and those most frequently used in the United States.

237. COOPER, CHARLES M. "Mathematics in Engineering Research," *Mathematics Teacher*, XLV (May, 1952), 331–35.

Emphasizes the importance of early forming the habit of sizing up all problems—for example, estimating the answer—which the author refers to as "quantitative thinking."

238. DAVIS, DAVID R. *The Teaching of Mathematics*. Cambridge, Massachusetts: Addison-Wesley Press, Inc., 1951. Pp. xvi+416.

A textbook on the techniques of teaching, the purpose of which is to exhibit the problems and duties facing the teacher and to suggest ways of handling them effectively.

239. EDWARDS, P. D.; JONES, P. S.; and MESERVE, B. E. "Mathematical Preparation for College," *Mathematics Teacher*, XLV (May, 1952), 321–30.

Lists mathematical needs of students for studying each of various subject fields in college.

240. FEHR, HOWARD F. "Teaching for Appreciation of Mathematics," *School Science and Mathematics*, LII (January, 1952), 19–24.

Analyzes factors involved in appreciation and illustrates these by use of the Golden Section.

241. GROVE, ETHEL L., and GROVE, EWART L. "An Experiment in the Integration of Mathematics and Science," *School Science and Mathematics*, LII (June, 1952), 467–70.

Discusses a practical plan for correlating work in mathematics with that in chemistry and physics.

242. HENDERSON, KENNETH B. "The Jewel and Its Setting," *Mathematics Teacher*, XLVI (December, 1951), 542–46.

Discusses ways in which teaching of mathematics has a contribution to make to three points of reference related to the objectives of secondary education, namely, social processes basic to group living, developmental needs of youth, and the values which define the democratic way of life.

243. HENDERSON, KENNETH B., and DICKMAN, KERN. "Minimum Mathematical Needs of Prospective Students in a College of Engineering," *Mathematics Teacher*, XLV (February, 1952), 89–93.

Gives the minimum list of topics with which entering students in engineering at the University of Illinois should be familiar and explains how the list was prepared.

244. JOHNSON, DONOVAN A. "A Report Card for Marking Achievement in Mathematics," *Mathematics Teacher*, XLV (October, 1952), 423–26.

Recommends more complete reporting to parents than is possible when a single mark is used for achievement and suggests a form that may be used.

245. JONES, PHILLIP S. "The Teaching of Collegiate Mathematics," *School Science and Mathematics*, LII (October, 1952), 523–27.

Gives criteria for judging the effectiveness of classroom instruction.

246. KINNEY, LUCIEN BLAIR, and PURDY, C. RICHARD. *Teaching Mathematics in the Secondary School*. New York: Rinehart & Co., Inc., 1952. Pp. xvi+382.

A textbook for teachers dealing with mathematics in modern life, historical background of the curriculum, present-day problems in instruction, and the teaching of various branches of the subject.

247. KRAFT, ONA. "Providing a Challenging Program in Science and Mathematics for Pupils of Superior Mental Ability," *School Science and Mathematics*, LII (February, 1952), 143–87.

Makes constructive suggestions for teaching mathematics to superior pupils.

248. MACDUFFEE, C. C. "What Mathematics Shall We Teach in the Fourth

Year of High School?" *Mathematics Teacher*, XLV (January, 1952), 1–5.

Recommends including introductory parts of analytical geometry and calculus in high-school courses.

249. MALLINSON, GEORGE G., and VAN DRAGT, HAROLD. "Stability of High School Students' Interests in Science and in Mathematics," *School Review*, LX (September, 1952), 362–67.

Analyzes changes in interest in science and in mathematics during four years of high school as indicated by scores on the Kuder Preference Record.

250. MOLLOY, THERESA, and OTHERS. "Concerning the Teaching of Second Track Mathematics," *Mathematics Teacher*, XLIV (December, 1951), 537–41, 546.

Makes suggestions for teaching classes of slow-learning pupils in mathematics.

251. NORRIS, E. T. "An English College Course Based on the Function Concept," *Mathematics Teacher*, XLV (November, 1952), 513–17.

Gives the broad outline of a course in beginning college mathematics designed for purposes of general education as well as for preparation for majoring in mathematics.

252. OLIVER, NINA. "The House That Geometry Built—A Plane Geometry Project," *Mathematics Teacher*, XLV (November, 1952), 518–21.

Explains a class project involving the construction of geometrical designs to cover the windowpanes of a classroom.

253. ORTH, ALLEN. "Mathematics and Manpower," *Mathematics Teacher*, XLV (October, 1952), 416–22.

Discusses the contributions that scientists and engineers make in our technological age and the prospective shortages of trained persons for the immediate future.

254. PECKMAN, EUGENE F. "Providing a Challenging Program in Mathematics and Science for Pupils of Superior Mental Ability," *School Science and Mathematics*, LII (March, 1952), 187–93.

Points out the need for providing training for superior pupils and the need for practical suggestions that are effective for attaining specific objectives.

255. REEVE, WILLIAM D. "What Price Factoring?" *Mathematics Teacher*, XLV (November, 1952), 497–502.

Makes a plea for eliminating most work in factoring from high-school courses except for the simplest cases which can be used to advantage by the pupils in problem-solving.

256. SKOLNIK, DAVID. "Let's Forget Mental Transfer," *Mathematics Teacher*, XLV (March, 1952), 161–67.

Advocates presenting geometry in such a way that the emphasis is on the mode of thinking rather than on the elements to which the thinking applies.

257. SKOLNIK, DAVID. "Mathematics Can Be Slanted To Teach Thinking," *Clearing House*, XXVI (May, 1952), 521–25.

Argues that mathematics teachers are the logical ones to spearhead the effort which teachers in many subjects must make to emphasize the teaching of reasoning in their courses.

258. WHITMAN, SOL. "We Can Dress Up General Mathematics," *School Science and Mathematics*, LII (March, 1952), 210–12.

Makes suggestions for motivating the classwork in general mathematics.

259. WILSON, J. DOUGLAS. "Mathematics: A Must for the Mechanic," *Mathematics Teacher*, XLV (January, 1952), 27–29.

Presents an analysis of the mathematics needed in certain skilled trades.

260. WREN, F. LYNWOOD. "The Merits and Content of a Freshman Mathematics Course," *School Science and Mathe-*

matics, LII (November, 1952), 595–603.

Proposes a list of basic principles on which a first-year college course in mathematics should be built.

261. ZANT, JAMES H. "Critical Thinking as an Aim in Mathematics Courses for General Education," *Mathematics Teacher*, XLV (April, 1952), 249–56.

Discusses objectives, content, and evaluation in mathematics courses designed to develop ability in critical thinking.

FOREIGN LANGUAGE[3]

FRANCIS F. POWERS
University of Washington

262. ALBRECHT, UDO. "Modern Languages Are a Vital Part of General Education," *German Quarterly*, XXV (January, 1952), 1–4.

Considers the role of modern languages in accreditation of a secondary school.

263. BECK, THEODORE T. "An Experiment in Teaching French by the Oral-cultural Approach Method," *Modern Language Journal*, XXXV (December, 1951), 595–601.

Reports mean achievement scores on the Co-operative French Test for classes taught by traditional methods and by the oral-cultural approach.

264. BERNARD, WALTER. "Texts and Classroom Methods in a Bilingual Reading Course," *Modern Language Journal*, XXXVI (January, 1952), 3–9.

Advocates the production of progressively graded parallel-translation textbooks to implement a method known to be effective in developing reading skills.

265. BRANDT, THOMAS O. "Student Broadcasts to Europe," *German Quarterly*, XXIV (November, 1951), 250–55.

Expresses enthusiasm for the outcomes of a project in which students prepared transcriptions for broadcast in Europe.

266. BROOKS, WENDELL S. "Chicago, Teeming with Foreign Languages," *School and Society*, LXXV (April 26, 1952), 259–60.

Points out that large segments of the population in cities such as Chicago speak and read languages other than English.

267. BUEHNER, WILLIAM J. "Language Study versus the Hydrogen Bomb," *Modern Language Journal*, XXXVI (February, 1952), 80–83.

Reminds readers that agreement in human affairs is reached by linguistic processes and exhorts them to action.

268. DEGRAFF, THELMA B. "Quinquennalia of Summer Greek," *Classical Journal*, XLVII (December, 1951), 123–24.

Adapts the accelerated program of war years to the teaching of beginning Greek, with considerable success and satisfaction.

269. DETORT, FERDINA J. CAPPARELLI. "Community Reading," *Modern Language Journal*, XXXVI (October, 1952), 279–81.

Explains the numerous advantages of community reading as a classroom technique.

270. D'HAUCOURT, GENEVIÈVE M. "Note sur la préparation et l'emploi des enregistrements," *French Review*, XXV (January, 1952), 192–98.

Describes enthusiastically the preparation, use, and advantages of recordings as *textes parlés* to be used concurrently with written textbooks.

271. EOFF, SHERMAN. "Literary Reading and the Foreign Language Requirement," *Modern Language Journal* XXXVI (February, 1952), 96–98.

Makes a plea for more careful evaluation and selection of text materials in view of maturity levels of students and certain literary values.

[3] See also Item 616 (Turner) in the list of selected references appearing in the November, 1952, issue of the *Elementary School Journal*.

272. FOLEY, L. "Words vs. Language," *School and Society*, LXXVI (July 26, 1952), 49–53.

Concludes that the study of words "naturally and effectively comes *after* one has acquired an easy practical mastery of the *language*" and that learning a language is *not* a matter of "just learning words."

273. FRANK, JOHN G. "Learning Languages with the Tape That Talks Back," *Modern Language Journal*, XXXV (December, 1951), 616–18.

Calls attention to advantages of using a tape recorder in numerous classroom activities.

274. FREEMAN, STEPHEN A. "New Idea in International Co-operation: Middlebury College Foreign Language Schools," *Education*, LXXII (June, 1952), 684–92.

Presents the pioneering model of an American university granting graduate degrees to American students doing graduate study abroad under supervision.

275. FURNESS, EDNA LUE. "Techniques for the Teaching of Listening," *Modern Language Journal*, XXXVI (March, 1952), 124–28.

Discusses a number of variations of the aural method and suggests testing devices for measuring aural comprehension.

276. GAUDIN, LOIS S. "Foreign Languages and Job Opportunities," *Modern Language Journal*, XXXV (December, 1951), 602–8.

Demonstrates the vocational advantage of knowing a second language through an analysis of 608 "Help Wanted" advertisements in six Sunday editions of the *New York Times* in which knowledge of a language other than English was specified as a qualification.

277. GAUDIN, LOIS S. "Effective Use of the Tape Recorder," *French Review*, XXV (January, 1952), 236–37.

Extends a discussion of techniques for using recordings and suggests ways of scheduling for optimum utilization of time and equipment.

278. GAUDIN, LOIS S. "The Language Laboratory," *French Review*, XXV (February, 1952), 284–91.

Reviews the present status of the language laboratory and describes typical setups designed to serve different purposes. Concludes that even a small laboratory is better than no laboratory at all.

279. GIDUZ, HUGO. "Teaching Modern Foreign Languages," *Modern Language Journal*, XXXVI (February, 1952), 65–67.

Portrays desirable qualities of prospective language teachers and makes a few suggestions concerning the problems confronting the beginning teacher.

280. GRAVES, MORTIMER. "All the Foreign Languages," *Education*, LXXII (June, 1952), 668–74.

Advocates early differentiation of curriculums and methods for students with different needs and objectives. Also urges the development of great quantities of learning materials devoted to specific ends.

281. GRIES, KONRAD. "Latin Word Order," *Classical Journal*, XLVII (November, 1951), 83–87.

Proposes to simplify and minimize syntax and illustrates the application of proposed principles.

282. HERBER, KATHARINE HARRIET. "One Brick in Babel," *Hispania*, XXXV (February, 1952), 101–2.

Shows how elementary-school children can acquire an elementary reading knowledge and some oral facility in Spanish as well as motivation for future study and a basis for international understanding.

283. HOEFER, L. A. "Administrative Problems in the Teaching of Modern Languages," *German Quarterly*, XXV (May, 1952), 139–43.

Indicates the interaction of many aspects of school administration and classroom

management as they influence the achievement of objectives.

284. JOHNSON, ROBERT B. "A Workable French Laboratory Program at Low Cost," *French Review*, XXV (January, 1952), 199–206.

Proposes careful planning of the laboratory program in the secondary school or college to effect maximum teaching efficiency at minimum cost.

285. KAULFERS, W. V. "Retooling the Profession in the Light of Modern Research," *Modern Language Journal*, XXXV (November, 1951), 501–22.

Declares a moratorium on factlessness, reviews research findings in several areas of the language arts, makes a series of recommendations, and suggests ways of implementing the recommendations.

286. KELLER, JEAN P. "The Language Laboratory—Tool or Toy?" *Hispania*, XXXV (May, 1952), 189–94.

Warns against certain abuses of laboratory equipment and suggests ways to make more effective use of equipment as teaching tools.

287. KRAUSS, P. G. "A Substitute for a German House," *German Quarterly*, XXV (May, 1952), 150–52.

Relates effective ways to use library space for making the study of language interesting, stimulating, and profitable.

288. KUEHNE, OSWALD R. "Family Names as a Motivation for the Study of Foreign Languages," *Modern Language Journal*, XXXV (November, 1951), 552–61.

Compiles a vocabulary list from family names found in directories of large cities.

289. MCGRATH, EARL J. "Language Study and World Affairs," *Modern Language Journal*, XXXVI (May, 1952), 205–9. Same in *School Life*, XXXIV (June, 1952), 129–30, 140–42.

Records Commissioner McGrath's address to the Central States Modern Language Teachers Association in May, 1952. He proposes a complete reconsideration of the place of foreign-language-study in American elementary education and greater emphasis on language-study on the secondary levels. Responses to the address are published in *Modern Language Journal*, XXXVI (October, 1952), 287–96.

290. MARONPOT, RAYMOND P. "Let's Teach and Test Vocabulary on a One-Language Basis," *German Quarterly*, XXV (January, 1952), 26–32.

Enumerates various techniques for teaching vocabulary on a one-language basis and combines six types of questions in an objective test for measuring vocabulary achievement in accordance with the author's thesis.

291. MILLER, WILLIAM MARION (compiler). "American Doctoral Degrees Granted in the Field of Modern Languages in 1950–51," *Modern Language Journal*, XXXV (November, 1951), 567–74.

Lists degrees by name, major field, title of thesis, and date of receiving degree.

292. MORGAN, J. C. "Streamlined Latin," *Classical Journal*, XLVII (March, 1952), 231–34.

Proposes modifications in Latin word order to accelerate pupil progress and adapt the Latin tongue to current needs.

293. MOULTON, WILLIAM G. "Study Hints for Language Students," *Modern Language Journal*, XXXVI (October, 1952), 259–64.

Duplicates materials prepared for students at Cornell University and should stimulate the preparation of learning aids by teachers in other places and at other educational levels.

294. MYRON, HERBERT B., JR. "Conversation Anew," *Modern Language Journal*, XXXVI (May, 1952), 230–35.

Assesses the value of the conversational approach to language-teaching and specifies practical teaching methods and procedures

to facilitate aural comprehension and oral expression.

295. PARKER, FAN. "The Teaching and Development of Russian Vocabulary," *Modern Language Journal*, XXXVI (March, 1952), 135–36.

Surveys techniques and methods for teaching vocabulary in any language and calls attention to the possibilities of adapting method to objectives.

296. PEI, MARIO A. "Six Languages for One World," *New York Times Magazine*, (February 24, 1952), 18, 25. Reply by SHEROVER, M. *Ibid.* (March 23, 1952), 4.

Discloses a plan for improving communication by concentrating study on three major tongues in each of four geographic areas of the world, using six major languages.

297. PHILLIPS, W. T. "Let's Talk Sense about Grammar," *Modern Language Journal*, XXXV (November, 1951), 575.

Deplores the de-emphasis of grammar in language courses.

298. PUSEY, NATHAN M. "A Summary Report of the Aspen Germanics Conference," *School and Society*, LXXV (January 12, 1952), 22–25.

Reports specific as well as general recommendations made at the conference held in 1949 under a grant from the American Council of Learned Societies. The major decision was that instruction in foreign languages should begin earlier in the educational system.

299. SÁNCHEZ, JOSÉ. "Linguafilms: Use of Filmstrips and Slides in Modern Languages," *Modern Language Journal*, XXXVI (February, 1952), 77–79.

Gives pointers on the effective use of the filmstrip in conjunction with textbook or film. The author cites sources of realia, filmstrips, and slides of unusual interest.

300. SAPON, STANLEY M. "An Application of Psychological Theory to Pronunciation Problems in Second Language Learning," *Modern Language Journal*, XXXVI (March, 1952), 111–14.

Analyzes the linguistic stimulus-response pattern, particularly on the auditory level.

301. SHAEWITZ, LEONARD. "Sixth-Grade Spanish Is on the Air," *Hispania*, XXXV (May, 1952), 219–22.

Focuses attention on the sixth-graders who regularly broadcast their Spanish lesson to other elementary schools in Indiana.

302. STEIFEL, WALTER E. "Bricks without Straw—the Language Laboratories," *Modern Language Journal*, XXXVI (February, 1952), 68–73.

Discloses worth-while objectives realized with the aid of the laboratory without any measurable loss of reading achievement or sacrifice of other objectives.

303. TYRE, C. A. "The Conversational Approach to Language Learning: An Evaluation and an Answer to Our Critics," *Modern Language Journal*, XXXVI (February, 1952), 59–64.

States advantages of the common-sense conversational approach, along with a few disadvantages. The author would avoid extremes and advocates a balanced approach to language-teaching.

304. VAN EENENAAM, EVELYN, "Annotated Bibliography of Modern Language Methodology for 1950," *Modern Language Journal*, XXXVI (January, 1952), 39–56.

Refers to 294 contributions bearing on modern language methodology and classifies them under a variety of headings, among others: aims, aural-oral method, audio-visual aids, curriculum planning, evaluation, surveys, general language, grammar, international relations, motivation, psychology of learning, realia, and teacher training.

305. WASLEY, RUTH E. "Sources of Realia for the Teacher of French and Spanish," *Modern Language Journal*, XXXVI (January, 1952), 10–15.

Classifies a variety of sources for useful teaching aids according to type of material available

306. WONDERLEY, A. WAYNE. "Promoting the Profession," *Modern Language Journal*, XXXVI (February, 1952), 90–92.

Illustrates the application of a variety of generally accepted public relations techniques in the classroom as well as off campus.

FILMS

KENNETH D. NORBERG

Sacramento State College, Sacramento, California

ENGLISH[4]

CORONET INSTRUCTIONAL FILMS, CHICAGO, ILLINOIS

307. *Improve Your Spelling.* 10 minutes, black and white and color. 1951.

Covers such points as becoming conscious of the way words "look," recording troublesome words, giving more attention to these words, and developing an awareness of elementary spelling rules.

308. *Literature Appreciation Stories.* 13 minutes, black and white and color. 1951.

While planning a puppet show with a writer, a high-school boy learns to read with the author and visualize characters, settings, and plots. Examples are drawn from famous short stories, but the principles of reading apply to all prose fiction.

YOUNG AMERICA FILMS, INC., NEW YORK

309. *Antony and Cleopatra.* 33 minutes, black and white. 1951.

A condensation of the play, enacted by a professional cast and employing the highest technical standards.

[4] See also Items 591 (*How Effective Is Your Reading*) and 593 (*Literature Appreciation: How To Read Poetry*) in the list of selected references appearing in the October, 1952, issue of the *Elementary School Journal*.

310. *Julius Caesar.* 33 minutes, black and white. 1951.

A condensation of the play with Robert Speaight as Caesar and Cecil Trouncer as Brutus.

311. *Speech: Conducting a Meeting.* 10 minutes, black and white. 1952.

Demonstrates and explains the basic parliamentary procedure which contributes to an efficient and successful meeting.

312. *Speech: Planning Your Talk.* 11 minutes, black and white. 1951.

Demonstrates the importance of planning and organizing a talk, and the basic steps in such preparation.

SOCIAL STUDIES[5]

313. *Grand Design.* 9 minutes, black and white. New York: United Nations Film Division, 1951.

Reviews the problems which have been faced by the United Nations and its agencies during the years 1945–51.

314. *Growth of London.* 23 minutes, black and white. New York: United World Films—Education, 1952.

A historical overview of the principal events and developments which shaped London and the British Empire. The expansion period is described in terms of London's trade, sixteenth-century discovery and exploration, and the Industrial Revolution. Scenes of modern London show the complexities of the city and some of the current problems to be met.

315. *Introduction to Foreign Trade.* 10 minutes, black and white and color. Chicago: Coronet Instructional Films, 1951.

Establishes the importance of foreign trade to our economy and presents a general pic-

[5] See also Items 596 (*Andrew Jackson*) and 597 (*Abraham Lincoln: A Background Study*) in the list of selected references appearing in the October, 1952, issue of the *Elementary School Journal* and Item 801 (*Horace Mann*) in the December, 1952, issue of the same journal.

ture of the mechanics of international commerce. In an actual exchange of goods, the detailed domestic and foreign operations involved in sale, shipment, and payment are portrayed.

316. *Land and Life.* 25 minutes, color. Athens, Georgia: Southern Educational Film Production Service, Inc., 1951.

Shows the relation between proper land use and the economic and social welfare of the southeastern states.

317. *Williamsburg Restored.* 44 minutes, black and white. Williamsburg, Virginia: Colonial Williamsburg Films, 1951.

Emphasizes the profound research and painstaking attention to detail involved in the restoration of Williamsburg to its eighteenth-century appearance.

ENCYCLOPAEDIA BRITANNICA FILMS, INC., WILMETTE, ILLINOIS

318. *Abraham Lincoln.* 19 minutes, black and white. 1951.

Re-enacts incidents in Lincoln's life which characterize him as an outstanding exponent of human freedom. Associates familiar Lincoln quotations with the actual incidents which prompted them.

319. *Insurance against Fire Losses.* 15 minutes, black and white. 1952.

An animated film designed to present the factors which affect the cost of insurance, methods of paying losses, and suggestions for reducing fire hazards.

320. *Susan B. Anthony.* 19 minutes, black and white. 1951.

Describes Susan B. Anthony's work toward obtaining woman suffrage. Highlights her activities in the women's temperance movement and in obtaining property rights for women.

321. *Working Together.* 23 minutes, black and white. 1952.

Shows how an adjustment of the interests of labor and management was achieved in an industrial plant.

MCGRAW-HILL BOOK CO., INC., NEW YORK

322. *Crisis in Iran.* 18 minutes, black and white. 1952.

Outlines the economic and political conditions that have brought on the present crisis. Shows modern cities and primitive nomadic tribesmen, the largest oil refinery in the world, and the ruins of ancient Persian civilizations.

323. *Japan and Democracy.* 18 minutes, black and white. 1952.

An account of life in occupied Japan, the United States administration there, and the problems now confronting the Japanese government.

GEOGRAPHY[6]

CORONET INSTRUCTIONAL FILMS, CHICAGO, ILLINOIS

324. *Geography of the Rocky Mountain States.* 10 minutes, black and white and color. 1952.

Provides a geographical understanding of the Rocky Mountain region, depicting grazing, irrigation, farming, mining, and lumbering.

325. *Geography of the Southwestern States.* 19 minutes, black and white and color. 1952.

Stresses the relationship between the activities of the people and the natural characteristics of the land of the southwestern United States.

UNITED WORLD FILMS—EDUCATION, NEW YORK

326. *Earth and the Sun's Rays.* 5 minutes, black and white. 1951.

Demonstrates the basic concepts of the effect of the sun's rays upon the earth by means of demonstrations with models and animated diagrams.

[6] See also Item 601 (*Hindu Family*) in the list of selected references appearing in the October, 1952, issue of the *Elementary School Journal*.

327. *The Seasons.* 10 minutes, black and white. 1951.

Explains the movements of the earth in relation to the sun and the resultant causes of the seasons.

SCIENCE

328. *Dances of the Bees.* 20 minutes, silent, black and white. New York: Wilner Films and Slides, 1951.

Demonstrates Professor von Frisch's observations that "finder" bees communicate the location of food to other bees. Certain distinctively marked bees are observed returning from their flights and performing curious dances, thus reporting their findings to other bees.

329. *Development of a Frog.* 10 minutes, black and white. Columbus, Ohio: Ohio State University, 1951.

Shows, through time lapse and photomicrography, the cell division of a frog egg.

330. *Life along the Waterways.* 11 minutes, color. Wilmette, Illinois: Encyclopaedia Britannica Films Inc., 1952.

Shows the plants and animals which may be seen in a yearly cycle of life near a New England brook and river.

UNITED WORLD FILMS—EDUCATION, NEW YORK

331. *Human Skeleton.* 11 minutes, black and white. 1951.

Shows skeletal function in the support, protection, and movement of the body. As a human model moves body parts, animated diagrams and X-ray photography are imposed to demonstrate main skeletal parts.

332. *Muscular System.* 11 minutes, black and white. 1951.

The action of muscles in maintaining a body in standing and moving positions is demonstrated by a human model. The position, attachment, and function of muscle related to bones and joints are explained.

333. *Musical Waves.* 12 minutes, black and white. 1951.

Principles of vibration are demonstrated with notes from string, wind, and percussion instruments. The "laws of strings" and the principles governing overtones are also explained.

334. *Sound Waves.* 15 minutes, black and white. 1951.

Demonstrates that all sound stems from a vibrating body and that vibrations produce sound waves. The phenomena of wave motion, wave length, and frequency are analyzed, and the speed of sound in air, water, and solids is measured.

335. *Unlocking the Atom.* 20 minutes, black and white. 1951.

Demonstrates an atomic explosion in action. Background information is given of early knowledge of the atom and the contribution of leading scientists.

MATHEMATICS

336. *Parallel Lines.* 10 minutes, black and white and color. Hollywood: Johnson-Hunt Productions, 1951.

Explains the concept of parallel lines, illustrates the prevalence of parallel lines in industry and architecture, and gives specific instances of the application of the laws of parallel lines. Intended for use in tenth-grade geometry classes.

EDUCATIONAL WRITINGS

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REVIEWS AND BOOK NOTES

ROBERT W. RICHEY, with contributions by MAXINE M. DUNFEE and ARTHUR HOPPE, *Planning for Teaching: An Introduction to Education.* New York 36: McGraw-Hill Book Co., Inc., 1952. Pp. xiv+422. $4.75.

Planning for Teaching by Richey and others is a textbook which represents the results of intensive experimentation by the authors and other faculty members at Indiana University for the purpose of developing an introductory course in education to be taken by all students planning to prepare for the teaching profession. The purpose of the authors in writing the volume is well stated as follows:

> A student in an introductory course in education should have many opportunities: (1) to become well oriented to the field of education, (2) to weigh critically the wisdom of entering the teaching profession, and (3) to plan his career comprehensively and with insight if he desires to enter the profession.
>
> This book should help teacher-education institutions to accomplish the above-stated functions of an introductory course in education to be taken by all students preparing to teach. The content of this book is focused primarily upon three major concepts: the planning of a career in education, the competencies required for teaching, and the function of education in our democratic society [p. vii].

The book is divided into five parts. Part I, "Some Aspects of Planning," introduces certain general principles which should increase the prospective teacher's understanding of, and skill in, planning, especially as it is related to education. Factors emphasized include potential values in teaching, competencies for teaching, certification and professional education of teachers, and personal growth toward teaching. Six steps in career-planning are suggested, which culminate with the listing of five elements in self-appraisal by means of which the student may examine his own abilities and qualifications as a prospective teacher.

Part II, "Some Economic Aspects of Teaching," presents advantages and disadvantages of the teaching profession as compared with other vocations. Among the economic factors thus considered are salaries, tenure, retirement, leave of absence, group insurance, and credit unions. Opportunities for both men and women in the various areas of education are discussed, and evidence is given regarding fields and subjects in which there is most likely to be an oversupply of teachers.

Part III, "Some Conditions and Trends in Our Public Schools," contrasts some characteristics of successful teachers with certain popular misconceptions regarding educators. The problem of community expectations of teachers is presented in such a way that it is likely to produce a wholesome attitude on the part of the prospective teacher toward such expectations. There is a brief historical sketch, which provides a background for an understanding of the plan of school organization and finance common in the United States.

Part IV, "The Education of Our Children," emphasizes the importance of wholesome teacher-pupil and teacher-community relations and the function of the teacher and the school in promoting social progress. By means of anecdotal records and recorded in-

terviews, the author brings out basic principles of learning and the place of the teacher and the school in setting the stage for bringing about desired changes in human behavior. Generalizations regarding community educative forces and their implications for teachers are presented in order to indicate preparations that should be part of the living resources of any new teacher in our time.

The last part summarizes the principles that have been developed and illustrated in previous chapters and helps the prospective teacher to apply these principles in planning his own professional preparation and in continuing his professional career.

This volume presents, in a concise and interesting way, principles and facts which are relative to a career in education. It provides many opportunities for the prospective teacher to become well oriented to the field of education, to weigh critically his qualifications and shortcomings, and to plan his career intelligently.

JOHN W. DEVOR

Asbury College
Wilmore, Kentucky

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WILLIAM O. BROOKS and GEORGE R. TRACY, *Modern Physical Science.* New York 17: Henry Holt & Co., 1952. Pp. xii+586. $3.80.

Modern Physical Science is a textbook for a physical-science course in the senior high school, preferably at the eleventh- or twelfth-grade level. It has been written for courses which are planned to emphasize general education in contrast to the usual specialized courses in physics or chemistry. There are sixteen units which cover, in general, the high points of physics and some applied chemistry, with a short unit each on earth science and astronomy. Brief units on electronics and on atomic energy are included. Each unit has from one to four or five chapters. In total, there are fifty chapters, each titled in the form of a question.

Practical applications to everyday living are stressed in all the units. While it is obvious that relatively few of the "consumer aspects of science" can be included in a textbook of less than six hundred pages, at least some important glimpses of science in action are provided. Among the applied topics included are short sections related to weather, water power, petroleum products, automobiles, airplanes, household chemicals, building materials, alloys, plastics, textiles, new fibers, medicines, cosmetics, and radio.

The book is well illustrated, both with excellent black-and-white photographs and with line drawings and diagrams of good sizes. Four pages of color diagrams are included with the chapter on color. The printing is arranged in two columns to each page. Phonetic aids are included for many words which might be difficult for students to pronounce, and at the end of each chapter is listed a vocabulary test on the new science terms used. At the end of each chapter there also appears a "quick quiz," consisting of two groups of essay questions, largely of the recall type—one for the average student and one for the "better than average student." Four to six "Interesting things to do" complete each chapter.

No laboratory activities are included or suggested for the students, other than a few relatively simple demonstrations which could be performed by selected students but are probably more suitable for instructor demonstrations. More suggested demonstrations as well as student laboratory-type experiences on related principles and applications would probably be welcomed by most instructors. Contact by students with some of the apparatus and devices of science relating to at least a few principles and applications seems desirable, even for general education. Whether this could be more appropriately done through a separate "manual" to accompany the textbook is another question.

While the authors state in the Preface that they "believe strongly in the scientific method and use it throughout the book," little use has been made of any suggestions,

exercises, or techniques for the teaching of scientific thinking. The few historical experiments which are included are not used so as to stress the scientific method and thinking involved.

Many instructors of physical-science courses will desire a great variety of suggested activities, projects, and resources for the wide range of individual interests and needs in the usual class of this type. The "Interesting things to do" section is, of course, a start in this direction, though it may be questioned that these optional assignments should be either for extra credit or for those students who want more work to do, as indicated in the Preface.

Instructors in physics, and in general-science courses particularly, also should find many of the applications and illustrations in this textbook useful as reference and supplementary material.

G. P. CAHOON

Ohio State University

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CURRENT PUBLICATIONS RECEIVED

METHOD, HISTORY, THEORY, AND PRACTICE

BRUCH, HILDE, M.D. *Don't Be Afraid of Your Child: A Guide for Perplexed Parents.* New York 3: Farrar, Straus & Young, Inc., 1952. Pp. 298. $3.75.

BURTON, WILLIAM H. *The Guidance of Learning Activities: A Summary of the Principles of Teaching Based upon the Growth of the Learner.* New York 1: Appleton-Century-Crofts, Inc., 1952 (revised). Pp. xii+738. $5.00.

COOLEY, HAZEL. *Vision in Television: The Origins and Potentialities of Educational Television.* New York 18: Channel Press, 1952. Pp. 80. $2.50.

JELENKO, VICTOR. *The Republic of the Schools: An Educational Program for Democracy.* New York 16: Exposition Press, 1952. Pp. 224. $3.00.

JORDAN, A. M. *Measurement in Education: An Introduction.* New York 36: McGraw-Hill Book Co., Inc., 1953. Pp. xii+534. $5.25.

VANDERBILT, ARTHUR T.; ADAMS, PHILIP RHYS; GOLDENSON, SAMUEL H.; KLUCKHOHN, CLYDE; and CARR, WILLIAM G. *Modern Education and Human Values.* Pitcairn-Crabbe Foundation Lecture Series, Vol. IV. Pittsburgh 13: University of Pittsburgh Press, 1952. Pp. 134. $3.00.

WARFEL, HARRY R. *Who Killed Grammar?* Gainesville, Florida: University of Florida Press, 1952. Pp. viii+88. $2.50.

WILES, KIMBALL. *Teaching for Better Schools.* New York 11: Prentice-Hall, Inc., 1952. Pp. xiv+398. $4.00.

BOOKS FOR HIGH-SCHOOL TEACHERS AND PUPILS

FENTON, CARROLL LANE, and KAMBLY, PAUL E. *Basic Biology for High Schools.* New York 11: Macmillan Co., 1953 (revised). Pp. x+726.

HENRY, WILLIAM E. *Exploring Your Personality.* Life Adjustment Booklet. Chicago 10: Science Research Associates, Inc., 1952. Pp. 48. $0.40.

IRWIN, LESLIE W. *My Safety and First-Aid Book.* Chicago 16: Lyons & Carnahan, 1952. Pp. vi+186. $0.80.

KITCH, DONALD E. *Exploring the World of Jobs.* Junior Life Adjustment Booklet. Chicago 10: Science Research Associates, Inc., 1952. Pp. 40. $0.40.

LAW, FREDERICK HOUK. *Great Lives: Life Stories of Great Men and Women.* New York 10: Globe Book Co., Inc., 1952. Pp. x+362. $2.00.

MARTIN, MICHAEL, and GELBER, LEONARD. *The New Dictionary of American History.* New York 16: Philosophical Library, 1952. Pp. vi+696. $10.00.

NORDHOFF, CHARLES, and HALL, JAMES NORMAN. *Mutiny on the Bounty*. A School Edition by FLORENCE DOERR JONES. New York 10: Globe Book Co., 1953. Pp. vi+332. $2.24.

PACKARD, LEONARD O.; OVERTON, BRUCE; and WOOD, BEN D. *Geography of the World*. New York 11: Macmillan Co., 1953 (revised). Pp. viii+499+xiii.

PEATTIE, ROD, and PEATTIE, LISA. *The Law: What It Is and How It Works*. New York 21: Henry Schuman, 1952. Pp. 146. $2.50.

RICH, FRANK M. *Dictionary of Discards*. New York 7: Association Press, 1952. Pp. 144. $3.50.

RIEDMAN, SARAH R. *Your Blood and You*. New York 21: Henry Schuman, 1952. Pp. 130. $2.50.

ROSSOFF, MARTIN. *Using Your High School Library*. New York 52: H. W. Wilson Co., 1952. Pp. 76. $0.70.

RUE, ELOISE, and LA PLANTE, EFFIE. *Subject Headings for Children's Materials*. Chicago 11: American Library Association, 1952. Pp. x+150. $4.00.

VINCENT, WILLIAM S., and RUSSELL, JAMES E. *You and the Draft*. Life Adjustment Booklet. Chicago 10: Science Research Associates, Inc., 1952. Pp. 48. $0.40.

WHEELER, ARVILLE, and MOORE, CLYDE B. *My Spelling Studybook:* Grade 7, pp. 112, $0.48; Grade 8, pp. 112, $0.48. Boston 16: D. C. Heath & Co., 1952.

PUBLICATIONS IN PAMPHLET FORM

ANDERSON, C. ARNOLD, and SCHNAPER, MIRIAM. *School and Society in England: Social Backgrounds of Oxford and Cambridge Students*. Annals of American Research. Washington 8: Public Affairs Press, 1952. Pp. 34. $1.00.

Annotated List of Phonograph Records: (Kindergarten-Senior High School). Edited by WARREN S. FREEMAN. Brooklyn 13: Children's Reading Service, 1953. Pp. 48. $0.10.

ARMED FORCES INFORMATION AND EDUCATION, DEPARTMENT OF DEFENSE. Armed Forces Talk: No. 422, *The Serviceman Goes to Town*, pp. 14; No. 425; *Women in the Armed Forces*, pp. 16; 426, *Your Safety*, pp. 16; No. 427, *Germany and the Defense of Europe*, pp. 16. Washington 25: Government Printing Office, 1952. $0.05 each.

BRUMBAUGH, A. J., and BERDIE, RALPH F. *Student Personnel Programs in Transition*. American Council on Education Studies, Vol. XVI. Series VI, Student Personnel Work, No. 16. Washington 6: American Council on Education, 1952. Pp. iv+44. $0.50.

CARNEGIE FOUNDATION FOR THE ADVANCEMENT OF TEACHING. *Forty-seventh Annual Report for the Year Ended June 30, 1952*. New York 36: The Foundation, 1952. Pp. 62.

CED and Economic Research in College-Community Centers. New York 22: Committee for Economic Development, 1952. Pp. 22.

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